THIRTY-THIRD ANNUAL REPORT

OF THE

BOARD OF TRUSTEES

OF THE

CLEMSON AGRICULTURAL COLLEGE

TO THE

General Assembly of South Carolina

1922

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LETTER OF TRANSMITTAL.

To the General Assembly of South Carolina

Columbia, S. C.

Gentlemen:

In obedience to the laws of the State, the Board of Trustees of The Clemson Agricultural College of South Carolina presents herewith its annual report covering the operation of the College for the fiscal year July 1, 1921 to June 30th, 1922.

The report is voluminous because it is our desire to give to the Legislature the fullest information with regard to the work, the plans and the finances of the State's agricultural and mechanical college.

The attention of the General Assembly is especially directed to the last chapter of the President's report, page 38, which deals with the financial condition in which the College finds itself. We present this condition to you with full confidence alike in your wisdom and in your patriotism. For thirty-one years the College has been able to live on the bargain entered into originally, whereby the College was to derive its support chiefly from the Fertilizer Tax. When obedience to this ancient compast imperils the very life of the College, the Board has no alternative but to ask you to share in its concern and provide a suitable remedy.

Unless adequate financial assistance is made at the coming session of the General Assembly it will be necessary at the opening of the fiscal year July 1st, 1923, to reorganize the College on the basis of a smaller faculty and smaller student body. When in the single session covered by this report, and in spite of hard times, the student body increased by 20 percent, such an alternative, I am sure, will not be entertained by your honorable body.

Yours truly,

Alan Johnstone,
President Board of Trustees.

Clemson College, S. C.,
December 15, 1922.

REPORT OF THE PRESIDENT OF THE COLLEGE

Covering the Fiscal Year July 1, 1921—June 30, 1922.

Clemson College, S. C.,
December 15, 1922.

From: W. M. Riggs, President of Clemson Agricultural College.

To: Hon. Alan Johnstone, President of the Board of Trustees.

Dear Sir:

I have the honor to submit herewith the President's annual report covering the twenty-ninth session of The Clemson Agricultural College of South Carolina.

The report covers the fiscal year from July 1, 1921 to June 30, 1922, and is intended for your thirty-third annual report to the Legislature.

I have arranged the report in seven main divisions as follows—

CHAPTER I. THE FISCAL YEAR—1921-1922.

1. **A General Summary.**
2. **A Fiscal Statement.**
3. **The Collegiate Work.**
4. **The Student Life and Interests.**
5. **The Public Service.**

CHAPTER II. 1923.

6. **Appropriations for Public Service 1923.**
7. **The Financial Outlook.**

CHAPTER I—THE FISCAL YEAR 1921-22

PART I. GENERAL SUMMARY.

The enrollment during the session 1921-22 was 1,007—by far the largest in the history of the college. The average enrollment for the previous five years was 843. Of this total enrollment approximately 50 percent were the sons of men actually engaged in farming, and about 68 percent were sons of farmers and small merchants.

The graduating class of 1922 numbered 131 men.

The 1922 Summer School, like the general session, reached its maximum at 478 students.

The general attitude and esprit of the corps of cadets was on the whole very satisfactory, and the year was marked by a spirit of harmony and cooperation among the teachers and officers of the college.

Both discipline and class work were maintained on a very satisfactory basis. During the year the college again earned the distinction of being one of the "Distinguished Colleges" in the Fourth Corps Area.

During this session the college curricula were thoroughly revised and enriched, and plans for a two year agricultural course and a general science course were perfected. The fifteen unit standard for entrance was adopted to be effective in September 1922.

The property of the college, including the campus and its buildings, was probably never in better condition, and taking them as a whole, the facilities of the college for good teaching were never better.

Among the visible additions to the college plant may be noted the new second story to the wood shop, the new post-office equipment, the new laundry, the new basketball gymnasium, (built by student and alumni contributions), the new hog barn and calf barn built last summer, and the installation of the new civil engineering and steam engineering laboratories in the quarters formerly occupied by the wood shop.

I regret to report that the fertilizer tax of $126,118.07 was the lowest in the past seventeen years, and was utterly inadequate to carry on the program of collegiate instruction made all the more acute by the sudden increase of 20 percent in

attendance over the previous session. We had to avail ourselves of the authority given by the Legislature to borrow $112,842.11. This was borrowed not from the Sinking Fund Commission but from the State Treasurer. Needless to say that while operating on borrowed money the college had to plan its work with the greatest economy and limit its expenditures to absolute necessities.

Inventory:

Our inventory as submitted to the Governor gives the following property values as of date June 30, 1922—

State Classification	Estimated Present Value
1. Office Equipment	$ 50,655.28
2. Household Equipment	45,881.86
3. Educational & Recreational Equipment	229,409.07
4. Library Equipment	48,820.85
5. Vehicles	11,930.51
6. Live Stock	45,233.02
7. Medical & Surgical Equipment	1,743.53
8. Military Equipment	2,840.10
9. General Plant	133,370.11
10. Buildings	1,121,557.45
11. Real Estate	354,479.00
Total Equipment	$2,045.920.78
12. Supplies	67,458.98
Totals	$2,113,379.76

Inspections and Visitations:

Under Section 18 of the By-Laws the Board of Trustees elects each year a Board of Visitors composed of one prominent citizen from each congressional district. The Board of Visitors for 1922 was made up of the following gentlemen—

1st District, Robert Lathan of Charleston; 2nd District, C. H. Seigler, of Aiken; 3rd District, S. J. Derrick of Newberry; 4th District, A. F. McKissick of Greenville; 5th District, J. Lyles Glenn, Jr., of Chester; 6th District, J. S. Thompson of Dillon; 7th District, W. W. Ball of Columbia.

This Board visited the college on May 3rd and 4th, all members being present except Mr. Lathan of Charleston. Mr. A.

F. McKissick was elected Chairman and Mr. W. W. Ball Secretary. The Committee spent the better part of two days in making a thorough though hurried inspection, and their very comprehensive survey is given on page 118 of this report.

The Board of Visitors called attention to the need of a new dormitory, a new hospital, hard surface roads, an additional experiment station in the Sand-hill section of the state, and suggested the wisdom of experimental farms to test out a proper diversified program that might be profitable to the small farmer.

With reference to the financial systems of the college, The Board has this to say—

"Financial administration of the institution is more than excellent. The methods were explained to the Board in great detail and the members saw that a model of accuracy and comprehensive efficiency in bookkeeping has been arrived at. In addition to an elaborate and exact system of checking and counter-checking that seemingly would promote the highest degree of economy while preventing waste, extravagance and dishonesty in expenditures, an interesting and valuable record of the performance of the cadets is carefully kept."

In referring to the financial difficulties in which the college finds itself, the Board of Visitors makes the following comment—

"Clemson College has depended in the main for the support of its collegiate activities, as well as for the buildings and extension of its plant, upon the fertiizer tag tax. The last two years, on account of the boll weevil infestation and agricultural depression, these revenues have been more than cut in half and loans from the state's sinking fund, authorized by the Legislature, have been the resort. No early increase in the revenues from fertilizer inspection is in prospect, and the question of future support of the college presses for answer. Two courses are open. The one is that the inspection revenues be covered into the state treasury and that the college be supported by direct appropriation. The second is that the college receive as heretofore the inspection revenues and that the Legislature directly appropriate an additional sum that will proivde for its comfortable maintenance. The Legislature would determine the minimum amount of money that the college will need for a year and guarantee that it receive the difference between the total of inspection and other revenues and that amount. The Board advises the adoption of this second course. It would be for the Legislature to say in what degree it should control the manner of expenditure, whether of the inspcction revenue or of the direct appropriation."

Report of the Committee on Economy and Consolidation:

Experts of the Committee on Economy and Consolidation which made a report to the last General Assembly, were most complimentary as to the economy and efficiency of the college managment. This is indicated by the following few sentences from their Interim report No. 45—

Efficiency of Operation:

"From whatever angle the work of Clemson Agricultural College is viewed, evidence of efficiency, economy and effective results is apparent * * * At every turn there is evidence of the smooth, frictionless working of a carefully devised and operated machine calculated to bring about good results and minimum effort and cost."

The interim report of these experts to the Committee will be found as the last chapter in this publication, page 211.

Legislative Visitors:

For the past five or six years it has been the practice of the college to invite in small groups members of the General Assembly who have not been here, to come to the college and see for themselves the work of the institution. In the 1921-22 Assembly, 93 members had been at the college at one time or another. Of the 1922-23 General Assembly, half of the members, (70) who had not been here, were invited in the fall of 1922, and the other half will be invited during the spring and fall of 1923.

Unfortunately all who are invited are not able to accept our invitation, and Clemson is so remote from Columbia that the General Assembly cannot very well come here and return the same day. Even if they could, the location of the college in the country and remote from its railroad stations, makes the handling of so large a crowd of visitors at one time impracticable.

It is our hope that every member of the present General Assembly will during his term of office, as a matter of official duty, pay the college a visit. Certainly he will have an invitation to do so.

Legislation:

We have probably never had a Legislature more favorably disposed towards the college or more appreciative of its service than the General Assembly of 1922. About ninety-three of

these gentlemen had visited Clemson from time to time in small groups. They had been shown over the college and had had carefully explained to them its aims and purposes and its financial methods. The personal testimony of these ninety-three members, the complimentary report of the Legislative Committee on Economy and Consolidation, and the report of the experts already quoted from, creataed I am sure a most favorable impression on the Legislature.

The following appropriations were made for the Public Service rendered by the college—

For extension service	$110,862.85
For tick eradication	20,000.00
For live stock sanitary work	50,000.00
For agricultural research work	50,000.00
For crop pest Com'n work	10,000.00
For slaughter dis'd live stock	2,000.00
Total	$242,862.85

The following additional legislative acts affecting the college were passed—

1. A Loan Act similar to that of 1921 authorizing the college to borrow if necessary as much as $150,000.00

2. An amendment to the Crop Pest Commission Act intended to give to the Commission power to prevent fraud or misrepresentation in the sale of fruit trees, vines, shrubs, bulbs, etc.

3. An Act giving the Crop Pest Commission the power to prevent the introduction and dissemination of contagious diseases in honey bees.

4. An Act setting up specifications for calcium arsenate and placing upon the Crop Pest Commission the authority of enforcing the same.

None of the acts passed are objectionable to the college, and in fact the President of the college and the President of the Board of Trustees were given full opportunity to present their views while the legislation was pending. The Agricultural Committee, which is also the Crop Pest Commission, has considered the acts requiring additional service at the hands of the Commission, and adopted the necessary regulations to put the new provisions into effect.

Board of Trustees:

The vacancy in the Life Trusteeship caused by the death of Senator B. R. Tillman in 1918 was filled by the election in July of Mr. B. E. Geer of Greenville.

The Board held its three regular annual meetings in December, April and July at the college and one extra meeting in September in Columbia to consider the award of scholarships.

PART II. A FISCAL STATEMENT

Fertilizer Tax:

During the fiscal year under consideration the fertilizer tax dropped to $126,118.07. This is the lowest figure for the past seventeen years, the next lowest being in 1914-15, the year following the buy-a-bale movement when the tax dropped to $155,859.76.

Loans of 1921:

Under the borrowing Act of the last General Assembly, we borrowed from the State Treasurer at 6 percent interest, $112,842.11. All over $250,000.00 from the fertilizer tax is pledged to the repayment of this loan, and in any case the annual repayment must not be less than one-tenth of the principal sum with interest. In making this loan we did not solicit it from the Sinking Fund Commission for the reason that the moral obligation to repay the loan would in that event be greater than if the money were obtained under the general borrowing power of the state. The money of the Sinking Rund Commission is for the protection of its policy holders, and any institution borrowing these resources is under a moral as well as a legal obligation. On the other hand, should the college at any time in the future go upon an appropriation basis, the simplest way out for the Legislature would be to cancel the loan on the sound theory that there would be no purpose of utility in the State's appropriating money to pay itself.

Treasurer's Report:

The Treasurer's annual report and the report of the Auditor of the State Bank Examiner give full information in regard to the expenditures of all college funds.

The following is a summary of receipts and disbursements for college purposes and those activities which are required by law to be paid from the fertilizer tax receipts—namely scholarships and the fertilizer inspection and analysis.

Summarized Statement.

Receipts and Expenditures from the Fertilizer Tax and Other Funds Available for Collegiate Work.

Resources.

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Income.

1. Interest on Clemson Bequest	$	3,512.36
2. Interest on Landscrip		5,754.00
3. Morrill & Nelson Funds (U. S.)		25,000.00
4. Tuition from Students		15,601.94
5. Rents on College Houses		9,714.27
6. Interest and Miscellaneous Receipts		13,600.87
7. Matriculation and Laboratory Fees		4,892.83
8. Privilege Fertilizer Inspection Tax		126,118.07
		$204,194.34

From Other Sources.

9. State Loan	$112,842.11		
10. Reserve Fund	77,209.35—	$190,051.46	
Total			$394,245.80

Expenditures.

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11. Scholarships and Adv's	$ 14,461.98		
12. Fertilizer Inspd. and Anal.	22,929.29—	$ 37,391.27	

College Operating Expenses:

13. Salaries	$154,809.18		
14. Coal, Labor, etc.	92,580.65—	247,389.83	
15. Equipment for Teaching	$ 13,104.36		
16. Permanent add's and Imp's	24,857.47—	37,961.83	
		$322,742.93	
17. Reserve on hand, June 30, 1922, necessary to carry college during season of small fertilizer sales, July 1st to January 1st		71,502.87	
Total			$394,245.80

Reserve:

During the first six months of the fiscal year, July 1st to December 31st, the college receives no net revenues from the fertilizer tax. In fact, the cost of inspection and analysis dur-

ing that period exceeds the income from the same source. It is therefore necessary that the college begin its fiscal year with sufficient funds from the previous year to carry the college until the fertilizer season again opens.

The college entered on the fiscal year July 1, 1921, with a reserve of $154,413.03. This reserve practically equalled a half year's cost and was made possible by the unusually large fertilizer tax of the fiscal year 1920, when the maximum figure of $313,472.54 was reached. When the fiscal year 1920-21 ended on June 30th, the fertilizer tax showed a reduction to $167,505.16, and our reserve had been half consumed, leaving the balance with which to start the fiscal year 1921-22 at $77,209.35. During the year covered by this report the fertilizer tax reached low water mark at $126,118.07, and after borrowing from the state $112,842.11, we entered the year with a book balance of $71,502.87—but counting our indebtedness, an actual deficit of $41,339.24.

Audit:

The report of the audit by the State Bank Examiner is made a part of this report and will be found interesting reading. This shows the total of receipts from all sources $1,555,878.77 and a total disbursement of $1,438,752.66, with a balance of $117,126.11 made up as follows—

On the college fund	$ 71,502.87	
On the cadet fund	13,454.01	
On revolving funds	30,824.94	
On farm products account	1,417.51	
	$117,199.33	
Overdraft, cadet deposit acct.	73.22	$117,126.11

The auditor's statement does not include expenditure for certain lines of work, the money for which is paid from sources entirely independent of the college. Into this class comes $32,952.00 paid by the Treasurer of the United States for extension work. A summary of all the funds administered would be as follows—

Summary of All Funds Administered

Disbursements—Fiscal Year 1921-1922.

Expenditures:

1. For College purposes	$285,351.66
2. For agricultural public service	661,160.31
3. For revolving accounts	332,969.85
4. Cadet funds (board, uniforms, etc.)	238.682.16
5. Cadet deposits (personal accounts)	66,441.67
Total	$1,584,605.65

PART III. THE COLLEGIATE WORK.

Support:

As stated in a previous chapter, the college work is supported almost entirely from the balance which remains of the fertilizer tax after the cost of the inspection and analysis has been paid. For the fiscal year 1921-22, the total expenditures for what might be termed "collegiate work" were as follows—

For salaries, labor. insurance, coal, shop and laboratory materials, etc.	$247,389.83
For teaching equipment and minor improvements and additions to plant	37,961.83
For scholarships	14,461.98
Total Operating Expense	$299,813.64

This total is a very low operating cost for a technical college of this size, representing approximately $300.00 per student.

Enrollment:

The total enrollment for 1921-22 was 1,308, distributed as follows—

(a) In College Courses:

Seniors	140	
Juniors	151	
Sophomores	178	
Freshmen	338	—807

(b) In Special Classes:

One Year Agriculture	28	
Specials and Irregulars	64	
Federal Board Students not in degree courses	108	200
Regular Session		1,007
(c) Summer School Students		301
Total		1,308

The 1,007 students enrolled during the regular session of the college were distributed by courses as follows—

In Agriculture	432	
In Engineering	409	
In Textile Industry	110	
In Chemistry & Chem. Engr.	21	
In Architecture	18	
In Pre-Medical	17	1,007

Occupation of Parents:

Farmers	49.7 percent.
Merchants	18.3 percent.
Lawyers, doctors and preachers	7.5 percent.
Mechanics, etc.	12.8 percent.
Unclassified and Miscellaneous	11.7 percent.

Graduates:

The Senior Class was the next largest in the history of the college, numbering 140 men. Of this number 131 have received the degree of B. S., and five more men will likely receive their degrees after making up work on which they were behind.

Graduates---Class 1922.

In Agriculture	48	
In Mech-Engr.	16	
In Elec-Engr.	20	
In Textile Industry	17	
In Chemistry	8	
In Civil Engr.	19	
In Architecture	3	
In Architecture	3	131

One Year Agricultural Course:

On May 26th certificates were awarded to 18 men who satisfactorily completed the One-Year Course in Agriculture. It is a great disappointment to us that more young farmers in South Carolina do not avail themselves of this excellent practical course in agricuture.

Certificates of Merit:

Certificates for distinguished agricultural service were awarded to Mr. Dan E. Good, of Walhalla, for his excellent work in the development of the apple industry in the Piedmont Section, and to Mr. Wade Drake, of Anderson, for progress in farm management and excellent methods of soil improvement.

Summer School:

The sixth summer school extended from June 12th to July 22nd. The enrollment reached a total of 301 students, distributed as follows—

Agricultural Teachers	68
Corn Club Boys	66
Cotton Graders	16
Federal Board Students	91
College Make-up Students	48
Preparatory Students	12
Total	301

Scholarships:

There were in effect 92 regular four-year county scholarships and 7 from the State-at-large, of which 63 were taking agriculture and 36 textile engineering. Only 13 of the one-year agricultural scholarships were filled. Of the above scholarships, 66 percent were held by farmers' sons.

It will be noted that in spite of the hard times and the fact that our attendance is larger than ever before we have fewer scholarships filled than since their inauguration at Clemson. Of the total 223 schoarships which are offered, only 112 are filled. There are vacant 61 four-year scholarships and 40 one-year scholarships. For some reason the one-year agricultural scholarships have never proved very attractive, and it is our plan to suggest an amendment to the Scholarship Act changing these scholarships from one-year to two-year duration. This two-year course will be so designed that should a student lack a few units of being able to enter the Freshman

Class desire to change over to the regular college course, he can do so at the end of the first year.

The Training of Disabled Soldiers:

In previous reports I have discussed rather fully the training of disabled soldiers sent here by the Veterans' Bureau for vocational education. During the session covered by this report the enrollment of these soldiers was 136. Seventeen of these were in the regular college classes, six in the one-year agricultural course, five in the two-year textile course, and the remainder in special vocational courses principally in agriculture. Approximately half of these disabled soldiers are married and live in the vicinity of the college. We have room in the barracks for ony a small number and the remainder have to shift as they can.

The expense of educating these soldiers is borne entirely by the federal government. The expenditures for that purpose during 1921-22 were $12,938.35.

During this session, Dr. W. H. Mills, on a year's leave of absence, had charge of this work and gave excellent service. Upon his return to the service of the Agricultural Department, his position was filled by Mr. M. L. McHugh, a graduate of the Class of 1919, appointed by the Atlanta office.

Reserve Offcers' Training Corps:

Clemson College has the distinction of having more students in the advanced infantry course of the R. O. T. C. than any other college in the United States. Under the Morrill Act establishing land grant colleges, we have always required the Freshmen and Sophomore casses to take three years of military instruction and as an adjunct to discipline, we have required the same amount of military instruction during the Junoir and Senior years.

However, the students who enter the advanced course at the beginning of the Junior year are required to take five hours per week of military instruction, and in compensation therefor the government pays such students the amount of the army ration for the two years they are in the advanced course. During all four years an average allowance of about $18.00 is paid as commutation on uniform .

The Teaching Work of the College:

As stated elsewhere in this report, a general spirit of harmony and cooperation has been most apparent in the official family of the college. I have been impressed with the earnestness and consecration of the faculty, which during the year has shown itself quite progressive in the design of new courses and in the improvement of old ones. The course in General Science has been introduced—also the study of the English Bible. The operation of the college has been changed from the three-term to the two term system, and in that connection the curriula of all the courses have been revised and improved.

Our salary scale is still below that of other institutions of this kind, or other state colleges for men. This becomes manifest every time it is necessary to fill a new posision. A glance over the statistics of the U. S. Bureau of Education shows that on the average our salaries are about 20 percent below what is considered normal.

The experts of the Committee on Economy and Consolidation, as will be seen from their interim report, page 211, commented favorably on the economical administrative organization of the college, which resulted in an economical salary scale and a comparatively low cost per student for instruction.

In 1922 the Bureau of Education in Washington published averages for 73 colleges and universities, and their figures, together with the figures at Clemson, are given for purposes of comparison. When houses are furnished rent free the value of this perquisite is added to the cash salary.

	Pres.	Deans or Directors,	Profs.	Assoc. Profs.	Asst. Profs.	Instr's
Average of 73 colleges	$8,482	$4,250	$3,392	$2,800	$2,300	$1,800
Clemson Averages	**6,000**	**3,650**	**2,808**	**2,288**	**2,035**	**1,625**

In every case it will be noted that Clemson is below the average. No houses or other perquisites go along with positions on the Clemson faculty.

I think our faculty recognizes that there are some living conditions at Clemson more favorable from the cost standpoint than in cities like Charleston and Columbia. At the same time, opportunities which are attractive to educated men

are very limited in a college located in the country. Under rural environment college professors must resign themselves to living a more narrow and more provincial life than if they lived in a city with greater civic and social opportunities.

Review of Departments:

The unit of organization at Clemson College is the subject-matter divisions, such as mathematics, architecture, botany, biology, electrical engineering, mechanical engineering, etc. These divisions are grouped appropriately into seven departments as follows—

Academic; Agricultural; Chemistry; Engineering; Military; Textile; and Student Affairs.

Divisions such as the library, treasurer's office, C. & R. Division, etc., are not grouped into departments, but are directly under the President's supervision.

In the following review of departments it is not attempted to give changes in personnel and details. Only facts of outstanding interest will be mentioned.

The Academic Department—D. W. Daniel, Director:

The Academic Department includes the divisions of English mathematics, physics, history and political economy, and is more directly related to the public school system of the state than are the purely technical departments.

The work of the Academic Department was never better than in the year covered by this report. Related as it is to the very foundations of all education and of all technical courses, the only pity is that more time cannot be devoted to cultural and humanistic studies. However, until college customs shall decree a course of five or six years' duration instead of the present four year course, we will have to content ourselves with too little of what this department is able to give, in order to make room for those subjects upon which a student's preparation for a profession depends.

The Agricultural Department—Resident Teaching—

F. H. H. Calhoun, Director:

The teaching work of the Agricultural Department has been very good this past session. In fact, I feel that no college in the state, if in the South, is giving more thorough instruction in the various agricultural lines than is Clemson. This is in part

due to the fact that we have a director whose sole duty it is to look after the teaching. The extension and research work are not developed at the expense of the teaching, but the three go along on a footing of equal importance. The most important work of an agricultural college is to train teachers and leaders in agriculture. Upon the success of that work eventually depends the progress which can be made both in research and in extension.

Additional space for agricultural teaching is a pressing need, and if the student body is at all increased, one additional building and an extension of the present agricultural hall will be absolutely necessary.

The plant of the department has been very much increased by the completion of the hog barn and the calf barn, as additions to the animal husbandry and dairy divisions respectively.

The Chemistry Department—R. N. Brackett, Director:

This department has in charge not only the teaching in chemistry, but the work of the fertilizer analysis and chemical investigations for the South Carolina Experiment Station and miscellaneous investigations required under the laws of the State. No department of the college is doing better work than this excellently equipped and well-manned department. The great interest of the students who are specializing in Chmistry is shown by the increasing number of graduates in Chemistry who are pursuing their work for higher degrees at the large universities of the north and west.

The Engineering Department—S. B. Earle, Director:

The drift towards the engineering courses noted in my last report still continues. Of the entire student body approximately half are in agriculture, but an increasingly large percent of the Freshman Class of last session and this are electing engineering courses. This means a very heavy burden upon the teaching force and facilities of the department.

The fifty-foot addition to the east wing of the engineering building which was completed last session has added greatly to the department's facilities. On the lower floor of this wing is gradually being assembled a first-class civil engineering testing laboratory and a laboratory for steam and hydraulic en-

gineering. The second story to the wood shop wing has been completed and is now occupied, this new story relieving the lower story of the east wing for the engineering laboratories mentioned above. It is the purpose of the department to put special emphasis upon civil engineering work because of the great need for civil engineering graduates to participate in the road building program of the state. Within a few years it is our expectation to have a testing laboratory which will be equal to any in the South and which will be available not only for teaching, but for the use of the State Highway Commission.

The Military Department—Major Madison Pearson, Director:

The resignation of our efficient and esteemed Commandant, Major J. M. Cummins, became effective September 1, 1921. The War Department recommended as his successor Major Madison Pearson, who during the past two years had filled the position of second in command. No department is more vital to the efficiency of the institution than is the Military Department, and much depends upon the selection of the Director of this Department, because he is also the Commandant of Cadets.

It gives me pleasure to testify to the efficiency and loyalty of Major Pearson and his entire staff of five captains, one 1st lieutenant and three non-commissioned officers.

The assistance given by Capt. May, Capt. Durfee and Capt Roderick, officers of the Military Department, to the various lines of athletic activity at the college, is highly appreciated and commended.

The Textile Department—C. S. Doggett, Director:

In no department of the college has there been a greater increase of interest than in the Textile Department. This is but natural when we consider that the cotton mill industry, next to agriculture, is the most important in the State.

The growth of the department in students is well indicated by the following growth in the Sophomore, Junior and Senior students during the past few years. The Freshman Class is common to all branches of engineering,—selections being made at the beginning of the Sophomore Class.

Year	Seniors	Juniors	Sophomores	Total
1918-19	7	5	11	23
1919-20	6	13	31	50
1920-21	11	25	22	58
1921-22	19	19	28	66

In addition, during the last few years there has been quite an increase in our short courses in textile, as shown by the following figures—

Year	Special Text	Fed. Board	Total
1919-20	5	5	10
1920-21	14	26	40
1921-22	16	28	44

The Bureau of Markets, U. S. Department of Agriculture, is conducting in our Textile Department a very extensive series of tests on cotton, having special relations with the length and strength of fibre. This work is quite stimulating to our work of instruction. In addition to paying whatever expense is involved, the department gets a good deal of cotton and other materials after they have been used in the government tests.

The textile Department has a fair equipment, although additional funds are necessary to keep it up to the times Eventually a better building should be provided for this instruction. The present building, designed on the lines of a cotton mill, is lacking in quiet class rooms and quiet laboratories away from the clatter and hum of looms and spindles.

As yet the value of the Textile Department in furnishing leaders for the cotton mill industry of the State has not been fully appreciated by the cotton manufacturers. If it were, we should have every year from every mill in South Carolina a number of promising young men who having mastered the practical details of cotton mill work, would be sent here for thorough training in textiles and related lines.

We have a two-year course in textile industry, but our degree course in textile engineering is predicated upon the same degree of engineering work and the same amount of cultural work as are our courses in civil, electrical and mechanical engineering.

The department still maintains touch with the industrial Smith-Hughes work being done in the State.

The Treasurer's Office—S. W. Evans, Treasurer:

The work of the Treasurer's office continues up to the high standard of previous years. With three assistants the Treasurer performs an immense amount of work necessitated by the detailed itemization of the Board's budget of college expenditures. In addition, during the past year all college accounts have been carried under the classifications of the Budget Commission, and some of them also under classifications of the Federal Department of Agriculture. The total funds actually handled by the Treasurer amounted to $1,438,752.66, these expenditures being represented in not less than twenty or twenty-five thousand separate transactions.

The audit of the State Bank Examiner commends the work of the Treasurer in the highest terms, as does also the report of the Board of Visitors.

Public Utilities:

The Construction & Repair Division has finished a year of good work. The residences and public buildings are in good condition and the new plans made by the Executive Committee for the future will continue them in this condition at a minimum of expense.

The cost of operating the heat, light and water division during the last fiscal year was $40,972.82, of which $24,872.34 was paid from college and $16,100.48 from cadet funds. The price of coal with freight added is still nearly double pre-war prices, and our labor is only slightly reduced from the peak prices of 1918.

The capacity of the power station having been reached, it was necessary to appropriate approximately $25,000.00 to add an extra boiler and turbine generator, and to make changes in the power equipment from direct to alternating current. Of this total $5,502.84 was expended in 1921-22. When these changes and additions are completed, we will have a system that will meet our needs for many years to come, and give us a feeling of security which we now lack.

With comparatively small expenditure last year, the campus has been greatly improved and beautified. It is one of our chief assets, because hundreds of people who pass daily over the main highway see only the campus and judge of the manner in which the college is carried on by the way in which the grounds are kept.

The Board of Visitors, in recommending that we should have several miles of hard surface road, indicated one of our greatest needs, but a need which will perhaps have to wait for many years, until other developments more imperative from a standpoint of college work have been accomplished. It is necessary at this time, however, to provide facilities for taking off the storm-water which involves us in heavy expense by repairs to the roads and sidewalks.

The development of the area in front of Barracks No. 1, the planting of trees and shrubs along the Experiment Station road, and the massing of shrubs and ornamental plants about the main buildings, mark very distinct progress in the work of beautifying our naturally beautiful campus.

Our telephone system, which now connects only the college offices, carries about fifty telephones, and the service is fairly satisfactory. When we had about convinced the Bell Telephone Company to install and operate a system here to meet the needs of our community, legislation was introduced and passed, in the face of which the company was unwilling to proceed with the installation, for fear of setting a precedent that might give trouble. Now that the law commanding them to install the system has been set aside by a permanent injunction, it is my hope that we will soon have a needed convenience which has become also a necessity of modern life.

The Calhoun-Clemson school, which serves the college community as well as the town of Calhoun and the surrounding territory, having complied with the Board's conditions, was paid the $2,750.00 to aid in making necessary additions to the school building. The conditions met were that the school district should vote the full 14 mills for school purposes; that the school should be recognized as a state-aided high school; and that the citizens of the Clemson community would raise $1,000 to add to the college contribution for buildings purposes. It is the clear and positive understanding that the college will never be called upon for further aid, either for maintenance or for buildings. This school is doing excellent work, and needless to say is a necessary adjunct of the college, because without proper school facilities, teachers and officers with children will not enter its service.

With the building up of the territory adjacent to the campus, the need for better police supervision becomes apparent.

The creation of the position of Campus Marshall to become effective in September is an important step in the direction of regulation.

PART IV. STUDENT LIFE AND INTERESTS

The Cost of Education at Clemson:

It has always been the purpose of the Board of Trustees to keep the cost of education at Clemson as low as possible, consistent with reasonable contentment and efficiency. The rapid rise in the price of provisions and labor during the winter and spring of 1920 necessitated an increase in the charge of board to $20.00, the highest price ever paid. This was reduced to $18.00 and later to $17.00 during the session under consideration, and will next session be further reduced to $16.00 per month.

The following is an exhibit of the required charges. The cost of books, which varies from $25.00 to $35.00, depending upon the student's class and course, is not included.

For Session of Nine Months.

1921-1922.

1. Board	$157.50
2. Laundry	13.50
3. Heat, light and water	20.25
4. Medical fee	12.15
5. Incidentals	9.00
6. Matriculation fee	3.00
7. Laboratory fee	2.25
8. Breakage fee	3.00
9. Student activity fee	12.00
10. Uniforms (maximum first year)	56.75*
Total for nine months	$289.40

*—Less after first year.

This makes the cost per day for the session of 270 days approximately $1.07. (Tuition, $40.00, is not included in the above cost, as only a fraction of the student body who are financially able pay it.)

The R. O. T. C. students in all classes receive from the War Department an average of $18.00 per session as commutation for uniform, and Juniors and Seniors in the advanced R. O. T. C. course receive in addition 30 cents per day as commutation for subsistence—a little more than half of what the college charges at $16.00 per month. With these credits applied, and not counting scholarships, it will be seen that education at Clemson has been brought down to very low figures.

The Cadet Fund:

Not a dollar of the money paid by students for their living expenses is used by the college. Any accruing balance is carried forward for the benefit of the account in succeeding years. The following is a statement of the Cadet Fund for the fiscal year 1921-22.

Cadet Fund—1921-1922.

	Received	Expended	Balance	Deficit
Miscellaneous	$ 296.72	$	$ 296.72	$
Subsistence	153,769.62	148,030.17	5,739.45	
Room, heat, light and water	16,070.70	16,100.48		29.78
Laundry	14,650.58	14,650.58*		
Hospital	12,110.29	10,100.60	2,009.69	
Uniforms	29,304.37	29,387.58		83.21
Incidentals	6,999.54	6,135.60	863.94	
Activity Fees	7,732.14	7,732.14		
Breakage	2,875.87	2,875.87		
Diplomas	477.85	471.95	5.90	
Totals	$244,287.68	$235,484.97	$ 8,915.70	$ 112.99

Net Balance on 1921-22 business—$8,802.71.

Summary to July 1st, 1922:

Brought forward, July 1st, 1921		$7,848.49
Bills payable, replacements, etc.		3,197.19
		$4,651.30
Balance on 1921-22 business		8,802.71
Carried forward, July 1st, 1922		$13,454.01

*$1,891.36 laundry funds transferred to new laundry building.

History of Cadet Fund:

The history of the cadet fund for the eleven-year period of my administration may be of interest.

During this period, July 1, 1911 to June 30, 1922, the total receipts amounted to $1,761,519.12 and the disbursements to $1,750,552.78, the difference representing about six-tenths of one percent of the receipts.

The subsistence item alone for the same eleven-year period was—

Receipts	$1,036,087.93
Disbursements	1,023,236.20

The difference between these two figures being a balance of $12,851,73, or an average of approximately $1,000 per year—equal to the cost of operation for less than two days per year.

Messhall and Kitchen:

The fire which partially destroyed the kitchen commissary and serving room and damaged or destroyed most of the equipment, proved as is usual in such cases, a blessing in disguise. The rebuilt plant is one of the best in the country, and sufficient in size to meet any reasonable demands that the future of the college may bring. The messhall and kitchens are screened, have tiled floors, are well lighted, heated and ventilated, and in every material way are prepared to give the best service for the money paid.

Barracks Accommodations:

Our increase in attendance has brought additional problems in the matter of room accommodations. In a great many rooms we are compelled to house three students where we should have only two. Not only do three crowd the rooms, but such an arrangement militates against good study. The building of another dormitory is fast becoming an acute necessity if we are to grow at all. We would be unable to accommodate our present attendance but for the fact that a number of our vocational students, many of whom are married, live out of barracks

The Cadet Hospital:

The health of the student body during the session has been unusually good. There was only one case of serious illness and no deaths at the college. I regret, however, to report that Mr. W. W. Mellette, Jr., died suddenly on April 8th, while at home on leave of absence. He had been away from the college for several weeks and was just on the point of returning when he was stricken and died.

During the latter part of February and early in March we had quite an epidemic of respiratory diseases, but for a second time escaped the usual epidemic of measles and mumps.

The hospital, although not a building well designed for its purposes, has continued up to its usual standard of excellent service. During the session the surgeon admitted to the hospital 395 separate cases and in addition treated a great many federal board students at their homes.

Discipline:

Looking over the session from a disciplinary standpoint, it was such a mixture of good and bad that it is difficult to say whether it was up to the usual standard or not. Prior to April 1st, there were comparatively few cases of discipline and the mass conduct of the students was exceptionally good. However, the individual demerit record of the corps was exceedingly good. The average for the three terms showed that 41.1 percent of the cadets received no demerits and that 75.46 percent received not more than 20 demerits,—20 being the limit of eligibility for the honor roll. Only one student exceeded the term limit and two the sessional limit, and under the Regulations these were required to withdraw from college. Under their pledge four students were required to withdraw because of hazing. The Discipline Committee held 28 trials—4 during the 1st term; 5 during the 2nd term; and 19 during the 3rd term. These trials resulted in 12 dismissals, and 8 suspensions. In addition, 8 students were given local punishments by the Committee.

Religious Influences:

During the session covered by this report we have been fortunate in having strong preachers in most of the local churches. The number of students in the Bible Classes conducted in barracks was most encouraging.

Every cadet is required to attend a 15-minute devotional exercise every morning in chapel, except on Saturday and Sunday, and unless he be a Jew or a Catholic, is required to attend divine services at the church of his choice every Sunday morning.

The introduction of the English Bible as an optional study in our courses is a step in the direction of religious training and education.

Recreation and Student Affairs:

Clemson College is one of the first to set up the control of intercollegiate athletics as a part of the regular college organization. At the December 1921 meeting of the Board of Trustees, By-Laws were adopted by which athletics was organized as a regular Division of the college in the Department of Student Affairs. The Athletic Director or Coach is a full professor and member of the faculty, the only difference in his status being that he is not paid from college funds but from the student activity fee and the receipts of athletic contests. These receipts, however, are handled through the Treasurer's office and disbursed just as are other college funds.

The action of the Board of Trustees in thus coordinating the athletic work with the collegiate work has met with general public approbation. The State newspaper in an editorial on May 6th, after reviewing what the Board had done, makes the following comment—

"Thus the conduct of athletics at Clemson is a part of the college routine; the President and the Faculty not only share in responsibility for it, but are enabled to exercise control of it. A condition wholly different from that existing in most institutions is thus brought about. The coach or athletic director is not an outsider in the pay of students and alumni, but occupies a relation to the college identical with that of other college authorities and inseparable from it.

"In The State's opinion the Clemson Trustees have in this way taken a long step in the solution of a problem constantly growing in perplexity and in embarrassment. * * * Nothing that The State can think of prevents other institutions in South Carolina from adopting a similar plan."

PART V. THE PUBLIC SERVICE

Clemson College is the agent of the Legislature in doing practically all of the public service which has an agricultural background. This is as it should be, because the college as a non-political and scientific organization is better prepared to do certain types of regulatory work than is any other agency in the state. The Extension Service has representatives in every county in the state, and this state-wide organization is of great assistance in research and regulatory activities as well as in Extension Service. Most colleges dislike regulatory service because of its police features. Clemson, however, has always

felt that the benefits to the people were sufficient to justify the Legislature in making the college its agency even in lines of work which inevitably must make some enemies for the college.

The Public Service work of the college is comprehended under (a) **Agricultural Research;** (b) **Extension Service;** and (c) **Regulatory Work,** and will be discussed in that order. The total budget for these lines of Public Service is shown on the next page. It will be noted that the total reaches the sum of $661,160.31, although the expenditures from state appropriations reached only $222,291.86 of this total. In other words, South Carolina is getting about $2.00 for every dollar it appropriates for lines of service in which 85 percent of our people are vitally interested. The State's appropriation is less than 4 percent of the total legislative budget for 1922, and represents all that South Carolina contributes to that interest.

Expenditures for Non-Collegiate Public Service

Fiscal Year 1921-22.

No.	Kind of Service	From State Appro'ns	From U. S. Appro'ns	From U. S. D. A. Funds	From Counties, Sales, etc.	Totals
1.	Agricultural Research	(a) $ 49,083.73	$ 30,000.00	$	(g) $ 2,342.93	$81,426.66
2.	Extension Service	(b) 94,147,00	147,902.57	32,952.00	(h) 117,422.97	(i) 392.424.54
3.	Live Stock San. Work	(c) 51,430.06		15,510.14		66,940.20
4.	Tick Erad.	(d) 15,679.68		38,185.43		53.865.11
5.	Hog Cholera Serum				31,623.12	31,623.12
6.	Slaughter Dis. Stock	(e) 2,118.42				2,118.42
7.	Crop Pest Commission	(f) 9,832.97				9,832.97
8.	Fert. Inspec. & Anal.				22,929.29	22,929.29
	TOTALS	$222,291.86	$177,902.57	$ 86,647.57	$174,318.31	$661,160.31

Note—Appropriations for Calendar year —(a) $50,000.00; (b) $110,862,85; (c) $50,000.00; (d) $20,000.00 (e) $2,000.00; (f) $10,000; (g) Sale of Farm Products; (h) $103,276.97 from counties, $14,146.00 Mics. Sources; (i) $123,558.29 for Home Demonstration Work by Winthrop College.

Agricultural Research—H. W. Barre, Director

Agricultural research is at the basis of agricultural teaching and agricultural extension. Although it lacks the popular appeal of extension or of regulatory service which reach directly the farms of the people, yet without agricultural research there would be little to extend through the extension service and little would be known of how to combat animal diseases and insect pests.

The appropriations for research work are shown in the foregoing table from which it will be noted that out of a total for this purpose of $81,426.66, South Carolina appropriated $50,000.00. This was used largely in the support of the branch stations at Summerville and at Florence.

The Agricultural Research work includes—

1. The parent experiment station at the college, including the college farm and the college laboratories in the Agricultural Department.
2. The branch stations located at Florence and at Summerville.
3. The cooperative agricultural research carried on with individual farmers in different parts of the state.

A full account of these activities is contained in the admirable report of the Director of Research, (see page 123). Probably the most important research work from an economic standpoint consists in the fertilizer experiments which for many years past have been carried on under ideal conditions at the Florence Station. The discoveries made here as to the best type and amount of fertilizers to be used probably saves the farmers of South Carolina every year on their million dollar bill for fertilizers more than the cost of operating this station for decades. Research along lines of agriculutral problems of state-wide importance can be made a very profitable investment even when only a little is accomplished. For instance it is estimated that the discovery of a boll weevil control method which would add one more boll of cotton to every cotton stalk in South Carolina would add a half million dollars to the wealth of the State.

The Experiment Station is deeply interested in the present acute situation as regards the boll weevil. Of course no investigation under South Carolina conditions could be carried on until the weevil arrived, although as far back as 1916 the college sent a Commission to the boll weevil territory, and immediately on its return published a bulletin warning the farmers to prepare by practicing diversification and learning to raise and handle other than cotton crops. Several of the most important methods of control were this year tested out at the Florence and at the college station. Unfortunately, the early infestation was so light as to make the results inconclusive at these places.

The Experiment Station is not wedded to any one method of control, having an open mind to any measure which offers a reasonable promise of relief. However, in advising farmers during the spring of 1922, it could do no more nor less than to advocate the only method behind which there was any considerable amount of scientific or experimental data—namely the method of dusting developed by the U. S. Department of Agriculture. The experience of the past season shows conclusively that calcium arsenate dust can be used with profit in any section of South Carolina. In the experiments carried on by the Station, the cost per application per acre averaged from seventy-five cents to one dollar and six cents; the number of applications from five to eight; and the profit from twelve to sixty dollars per acre. It is needless to say that the Experiment Station will continue to put special emphasis on boll weevil control during the coming season with whatever funds are available for the purpose.

At the close of the fiscal year a number of agricultural accounts which had been operating on a reinvestment basis, and some of which were carrying considerable overdraft, were squared up and transferred to the Experiment Station under the sale of farm products. The total amount of overdraft on these accounts was $43,418.62. This amount represents mainly a book overdraft and is wholly or in part offset by increased farm and live stock assets which do not appear in the form of cash. The revolving accounts transferred were—The College Farm; The Animal Husbandry Division; The Dairy Herd; The Creamery; and The Veterinary Division.

The Extension Service—W. W. Long, Director.

The total funds available for Extension Service are shown in the preceding tabulation to be $392,424.54. Of this amount $32,952.00 was disbursed by the Treasurer of the United States, and $103,276.97 by county treasurers, in both cases on vouchers approved by our Director of Extension. Of the total amount expended for Extension Service, Winthrop College acting as our agent, expended $123,558.29 for Home Demonstration work for women. Needless to say this work was done with that thoroughness which characterizes every task which Winthrop College undertakes.

The Smith-Lever Act was accepted by the Legislature in 1914. The required State appropriation under this Act increased annually from 1914 until it reached its maximum in 1922 at $110,862.85 for the fiscal year July 1, 1922 to June 30, 1923. At this annual figure it will continue. Under the Smith-Lever Act the Federal government was to put up an equal amount plus $10,000. Due however, to additional appropriations made during the war period, the federal government is actually contributing per fiscal year $156,014.49.

The Extension Service is becoming more and more a vital part of the state's life. In every agricultural emergency and for every kind of agricultural service the people turn to the college as their first and authoritative source of help and information. In all state-wide movements for agricultural improvement, and especially during the past year in the organization of state-wide marketing associations, the Extension Service has rendered unique and valuable service.

During the year under consideration the policy of decentralization has been followed to the extent of organizing at each of the three district headquarters a staff of specialists to work in the particular district. This has resulted in greater economy in traveling expenses, and in bringing the specialists more directly in contact with the county agents and the farmers whom they have to serve.

Mr. Long's admirable report covering the Extension Service for the year begins on page —_ of this report. Its reading must convince any one of the wide-spread value of the Extension Service, never greater than in this time of depression and demoralization among our farmers. So thoroughly is the Extension Service entrenched in the confidence of the people

that our greatest difficulty today is in meeting the many demands made upon the agents and upon the specialists. The greatest task in the Extension Service will always be the selection of satisfactory men for the positions of county agents. The value of a good agent cannot be estimated in terms of salary, and any salary is too great for an agent who is a misfit. Only through a course of years and by careful selection based solely upon merit will all counties be supplied with just the type of men they need. In this connection it is the policy of the extension force to donate $1,500 to the salary of each county agent. The total salary which the agent receives depends upon the contributions from the county as well as from the college, and in county agents as in everything else, the higher salaries attract the best men.

Regulatory Service:

The regulatory service of the college includes the following lines—

1. Fertilizer inspection and analysis.
2. Crop Pests and diseases.
3. Tick eradication.
4. Live stock sanitary work.

1. Fertilizer Inspection & Analysis—(For full reports, see (pages 171 and 173)

Under the laws of the state the Board of Trustees is charged with the inspection and analysis of commercial fertilizers sold within the state. A committee of the Board of Trustees known as "The Board of Fertilizer Control" gives special oversight to the enforcement of the fertilizer laws. Mr. J. E. Wannamaker of St. Matthews is the Chairman of this Committee.

The work of inspection is under the immediate charge of Mr. H. M. Stackhouse, Secretary of the Board, and is supported by the fertilizer tag tax. The Work of analysis is done by skilled and experienced chemists in the Chemistry Department of the college under the supervision of the Chief Chemist, Dr. R. N. Brackett. Full reports from both of these officers are made parts of this report.

Mr. Stackhouse's report of the 1921-22 sales shows 477,336 tons of fertilizer and 29,732 tons of cotton seed meal. The total tonnage was 507,068 tons as compared with 616,280 tons

in 1920-21 and 1,253,890 tons in 1919-20. The 1921-22 sales were the lowest since 1905.

The total number of samples analyzed was 769 as compared with 799 in 1920-21 and 1,802 in 1919-20.

2. Crop Pests and Diseases—For full report, see page 188)

The Crop Pest Commission is constituted under the laws of the state to safeguard the agricultural interests against the importation of diseased seed, nursery stock, and the introduction and spread of insect pests and plant diseases. The Agricultural Committee of the Board constitutes the Crop Pest Commission, and Mr. J. E. Wannamaker of St. Matthews is the Chairman.

Never before have the fungus and bacterial diseases of plants taken a larger toll, and never have insect pests been more active and destructive. The plant disease survey of the U. S. Department of Agriculture estimate the loss by plant disease to South Carolina on its seven major field crops at more than twenty million dollars. Not taking into account the damage wrought by other insects, which is heavy, especially in the trucking sections of the State, the loss to the cotton crop alone, due to the boll weevil, probably represents double the amount of the figure above given. Nothing today stands between the farmers and ruin except the scientific men who are doing research work to discover methods to combat plant disease and insect ravages. The State Entomologist and the State Pathologist and their asistants keep up the defenses against invasion and devise new methods to fight new enemies which break through and enter the state.

Any one unfamaliar with the work of the Crop Pest Commission will be interested and astonished to read of its many activities in the full report which is appended hereto. Probably no investment of $10,000 by the State brings larger returns than the appropriation which supports this work.

3. Tick Eradication—(See State Vet.'s report, page 202)

The remaining stronghold of the cattle tick is in the coastal plain section of the state. Gratifying results were obtained in those counties and areas where the stock law was observed. In a great many sections, however, no effort was made on the part of live stock owners to keep up their stock, and as a result no substantial progress was made in tick eradication. Unfor-

tunately the stock law contains no special authority for its enforcement. Quoted from the State Veterinarian's report—

"The beneficial features of tick eradication are being reflected in those sections where it is now safe to import the better breeds of cattle, both of the beef and dairy types, and the farmer who has taken advantage of the situation and has established a herd of beef or dairy cattle is the one who is feeling less the effects of the cotton boll weevil and the general financial depression. We feel safe in making the prediction that in a very few years cattle raising will be one of our principal industries."

The expenditures for this work from January 1st to October 31st were as follows—

From State Funds	$14,015.94
From Federal Funds	44,798.97

It will be noted that the federal department has generously contributed more than three dollars for every dollar that the State has spent.

4. Live Stock Sanitary Work—(See State Vet. report, page 202)

The Live Stock Sanitary Work includes tuberculosis eradication, hog cholera control, the investigation and control of contagious outbreaks, and quarantine activities against the introduction of diseased live stock.

This work is supported by an annual appropriation of $50,000. The headquarters for the work is the Liberty National Bank Building, Columbia, S. C. Here the State Veterinarian has his office, and the Assistant State Veterinarians not stationed at strategical points in the State, work out from Columbia. Here too a laboratory is maintained for the purpose of making tests in order to confirm the diagnoses made by the Field Veterinarians. In this laboratory is carried on important research work relating to the parasites which are to be combatted in South Carolina.

The force that carries on this work consists of the State Veterinarian, jointly employed and paid by the college and the U. S. Department of Agriculture, ten veterinarians stationed at different points in the State, eight veterinarians and inspectors having supervision in the tick eradication work, and twenty-six private veterinarians who act as deputy veterinarians on a per diem basis.

The magnitude of the work carried on by the Columbia offce will be appreciated when it is stated that 1,054 herds were tested during the past year for tuberculosis. In those herds were 19,398 dairy cattle, of which number 217 were found to be tubercular and were killed. Since November 1, 1917, 54,910 cattle have been tested and 849 found to be tubercular. Since the transmissibility of tuberculosis from the dairy cow to the human being is no longer doubted, this work is of great importance from a public health standpoint.

The treatment of hogs for cholera is another one of the large activities carried on by this office. During the past year 61,000 hogs were treated. The total value of the serum and virus and other biologies which were distributed on a cost basis amounted to $41,186.71.

The funds of this department include $2,000 appropriated by the Legislature for diseased cattle which are destroyed under laws of the State.

The sale of hog cholera serum is handled on a revolving basis, no appropriation being required for the purchase of the serum, this being sold to farmers at cost. The treatment of the hogs and the control of outbreaks of cholera are handled by the Asistant State Veterinarians and their deputies and assistants.

CHAPTER II—1923

PART VI. APPROPRIATIONS FOR PUBLIC SERVICE 1923

The college is submitting exactly the same estimate for Public Service as in 1922. More work could be done if more money were available, but I take it that we should all recognize the conditions of the state and govern ourselves accordingy.

In the statement below is shown in the first column of figures the usual state appropriations and the other appropriations which are received in consequence thereof—

Non-Collegiate Activities—Public Service 1923

Activity	S. C. Appro's	U. S. Appro's	U.S.D.A. Fund	Misc.	Totals
1. Extension Service	$110,862.85	$156,014,49	$ 32,100.00 (a)	$112,037.59 (b)	$411,064.93 (c)
2. Agricultural Research	50,000.00				50,000.00
3. Crop Pests & Diseases	10,000.00				10,000.00
4 Live Stock San. Work	50,000.00		17,950.21 (d)		67,950.21
5. Tick Erad.	20,000.00		50,951.30 (e)		70,591.30
6. Slaughter Dis. Live Stock	2,000.00				2,000.00
7. Hog Cholera Distrib'n				(Sales) (f) 50,000.00	50,000.00
8. S. C. Experiment Station		30,000.00		(Sales) 35,475.00	65,475.00
9. Fert. Inspec. & Analysis				(Tag Tax) 33,570.00	33,570.00
Totals	$242,862.85	$186,014.49	$101,001.51	$231,132.59	$761,011.44

Notes:

(a) (d) (e) Disbursed by Treas., U. S.
(b) Paid by County Treasurers.
(c) $126,744.33 of this for Home Demonstration.
(f) Assumed figure based on past experience.

It will be noted from the above that for its appropriation of $242,862.85 the state gets service which actually costs $761,011.44, or over three dollars for every dollar of the state's appropriation. The above well established lines of public service are so well known to the citizenship of the state that little explanation should be necessary. Just a paragraph in regard to each will be given.

1. Smith-Lever Extension Service—$110,862.85):

The State of South Carolina in 1914 accepted the terms of the Smith-Lever Extension Act, under which definite annual appropriations were to be made. These appropriations reached their maximum in 1922, and the figure for 1923 is the same as for last year, and will continue the same hereafter. It will be noted that the Federal Department appropriation to meet this state appropriation is $156,014.49.

The Extension Service is the only state-wide agricultural organization supported by the state and by the federal department for the benefit of the people on the farms.

2. Agricultural Research—($50,000.00):

This is the same amount that has been appropriated heretofore and represents the necessary supplementary funds to support the research work at the college, at the coast station near Summerville, and at the Pee Dee Station at Florence. This $50,000.00 represents the entire amount spent by South Carolina for research work in that great profession in which 85 percent of our people are directly concerned. A single discovery which will reduce the large fertilizer bill of the State, or save an additional boll of cotton, or check the ravages of some plant diseases or insect pest, may easily be worth to the State in a single year the cost of all its research work for several decades.

3. Crop Pests and Diseases—($10,000.00):

For this work no increase is requested. Perhaps no single appropriation for control work is more important or productive than this. But for the vigilance of the State Entomologist and the State Pathologist and their assistants, South Carolina would soon be the dumping ground for diseased seed, plants and nursery stock and be an unprotected territory for the invasion of plant diseases and insect pests. Many serious pests and diseases are at South Carolina's door and some of them

have already gained a foothold. The work of the Crop Pest Commission is the sole protection which the State has against serious loss. The U. S. Department of Agriculture in a recent publication estimated that the loss in South Carolina due to plant disease alone amounted to more than twenty million dollars annually.

4. Live Stock Sanitary Work—($50,000.00):

No increase in this appropriation over former years is asked, although double the amount could be well spent in the protection and promotion of an industry which represents in money more than the cotton crop of the state. The Live Stock Sanitary Board, which is in charge of the live stock sanitary work, is to live stock what the State Board of Health is to humans. Protection against the importation of diseased live stock, the control of contagious outbreaks such as hog cholera, anthrac nose, blackleg, etc., and the testing of dairy cows for tuberculosis, are a few of the activities of our sanitary office located at Columbia. With the necessity under boll weevil conditions of turning to a more diversified agriculture, the amount and value of live stock has steadily increased. This is testified to by the excellent live stock exhibits at the last State Fair. As the industry increases the demand for veterinary service also increases. But we have not increased the usual appropriation which represents less than one-tenth of one percent of the value of the live stock in South Carolina expended for its protection.

Because of the need for quick service, the headquarters of this work has for some years been located in Columbia. Here the State Veterinarian has his office and laboratories, and from this point serum and biologics are dispensed. During the past year 61,000 head of hogs alone were treated under the supervision of this office; 15,050 consultations and interviews were held; 6,283 farms visited; 4,530 contagious outbreaks investigated; and 1,745 sanitary surveys made. During the year ending October 31st, 19,398 cattle were tested for tuberculosis.

The above are merely illustrative of the many lines of work in which the Columbia office and its staff of field veterinarians are engaged. A full account of activities will be found on page 202 of this report.

5. Tick Eradication—($20,000.00):

The amount for tick eradication likewise remains unchanged. But for the free range conditions which have for so long existed in the lower counties of the state, tick eradication in South Carolina would now be completed. During the past year the federal department has been most liberal with South Carolina in carrying on this work, contributing from January 1st to October 31st, 1922, more than three times the expenditure from state funds.

6. Slaughter of Diseased Live Stock—($2,000.00):

Reimbursement to live stock owners for animals destroyed in the control of contagious diseases is required by law. Because of the increase of interest in tuberculosis-free dairy cattle, the amount of last year's appropriation was not sufficient to pay the claims of 1922. The amount asked, $2,000.00 is likely to be insufficient, but it was thought best not to increase any of the items for Public Service.

7. Miscellaneous—No Appropriation:

The work of fertilizer inspection and analysis, the South Carolina Experiment Station, and the sale and distribution of hog cholera serum, need no appropriations from the state, being supported by other funds—the fertilizer inspection and analysis from the fertilizer tax; the S. C. Experiment Station from the U. S. Hatch and Adams Fund and the sale of farm products; and the distribution of hog cholera serum from the receipts of sales.

8. Boll Weevil Control:

If satisfactory cooperative arrangements can be perfected with the U. S. Department of Agriculture, it is hoped that the Legislature will make an appropriation for the establsihment of a boll weevil laboratory at the Pee Dee Station in Florence. The U. S. Department of Agriculture will almost certainly establish a station corresponding to the one at Tallulah, La., in this northeastern section of the cotton belt. South Carolina will get a maximum benefit if the station is located within its borders.

The needed appropriation will likely amount to $25,000.00 and will be presented in the form of a joint resolution in the early days of the legislative session. To wait until the passage of the appropriation bill during the last days of the session

would be too late for experiments in 1923. If the joint resolution is approved by the General Assembly, the appropriation provided can be made a part of the appropriation bill, but in the meantime the college and federal authorities can go forward with the selection of their personnel and the planning of their experiments. The importance of testing out all promising methods of boll weevil control as rapidly as possible so that our people may get the benefit of these experiments, is too important to need discussion.

In presenting these appropriations, the college does not come as a suppliant, begging that they be made. The college regards itself rather as an **agent of the Legislature** to carry out willingly and efficiently these lines of Public Service to whatever extent the General Assembly is willing to support. The duty of the college is to recommend what is needed. It is for the Legislature to say how much of the service indicated by us as needful shall be done.

PART VII. THE FINANCIAL OUTLOOK.

The establishment of Clemson College at the homestead of John C. Calhoun is one of the romances of education. Those who are fond of history are referred to page 222 of this report, where will be found a brief history of Mr. Clemson's life and his connection with the establishment of Clemson College.

In 1889 the State accepted the Clemson Bequest, using in the Act of Acceptance the following words—

"The State of South Carolina hereby expressly declares that it accepts the devise and bequest of Thomas G. Clemson, subject to the terms and conditions set forth in his last will and testament."

In 1890 an Act was passed devolving upon the college the duty of inspecting and analyzing fertilizers, and providing that after the expense of the inspection and analysis were paid, the balance should go to the college for its **erection and maintenance.**

Since the passage of the Act of 1890, college support represented by the fertilizer tax has had a variable, but until recently, a steadily increasing growth. This will be seen from the following data—

Fertilizer Tag Tax—By Fiscal Years.

30 Years—1890 to 1922

1890-1899		1910-1919	
1890	$25,000.00*	1910	$226,980.96
1891	56,868.10*	1911	264,374.08
1892	36,221.48	1912	221,000.00
1893	50,676.00	1913	231,500.00
1894	43,499.06	1914	276,000.00
1895	30,317.75	1915	155,859.76
1896	51,273.37	1916	171,018.52
1897	60,600.00	1917	216,432.49
1898	65,020.00	1918	268,721.68
1899	59,192.50	1919	258,477.10
Average	**$47,866.83**	**Average**	**$229,036.46**

*Record not clear

1900-1909		1920-1921-1922	
1900	$ 39,724.17	1920	$313,472.54
1901	100,794.89	1922	126,118.07
1902	97,476.09	1921	167,505.16
1903	85,200.00		
1904	127,437.44		
1905	118,820.12**		
1906	158,256.44	**Total—30 Yrs.**	**$4,599,548.27**
1907	150,323.48		
1908	168,115.28		
1909	177,271.74		
Average	**$122,341.96**	**30-Yr. Average**	**$139,380.00**

In asking for a change of financial status, it is appropriate to take a census of what has been accomplished in the course of the thirty years during which the college has lived and grown on the fertilizer tax—supplemented by comparatively small amounts from other sources.

The measure of accomplishment will be found (a) in the property acquired; (b) the educational service performed; (c) in the public service by which the college has extended the campus to include the whole state.

(a) Property Acquired:

The title to the lands of Clemson College rests in the State of South Carolina. These lands have increased from the 854

acres contained in the original tract to 1,560 acres at the college, 600 acres at the Coast Station near Summerville, and 200 acres at the Pee Dee Station within the city limits of Florence. Buildings represening a value of $1,121,557.45 have been erected on the State's property, and nearly a half million dollars is represented in equipment, books, machinery, etc.

The following is a summarized inventory to June 30, 1922—

Classification	Cost Value	Estimated Present Value
1. Office equipment	$ 52,605.84	$ 50,655.28
2. Household equipment	52,524.39	45,881.86
3. Educational & Rec'nl Equip.	204,150.10	229,409.07
4. Library equipment	47,577.20	48,820.85
5. Vehicles	16,671.30	11,930.51
6. Live stock	25,863.87	45,233.02
7. Medical and Surg'l Equip.	2,105.50	1,743.53
8. Military equipment	3,510.53	2,840.10
9. General plant	127,099.33	133,370.11
10. Buildings	790,002.45	1,121.557.45
11. Real estate	79,882.00	354,479.00
Equipment totals	$1,401,992.51	$2,045,920.78
12. Supplies	68,068.84	67,458.98
Totals	$1,470,061.35	$2,113,379.76

(b) Educational Service Performed:

During the thirty sessions of the college, approximately 2,000 young men have graduated in the four-year courses, and the total annual enrollment in all courses for the thirty years has averaged approximately 675 men. For this session and last the average is over 1,000. All of our graduates have been in technical courses, such as agriculture, engineering, chemistry, textile industry, etc., and are equipped to take an important part in the economic development of the state and nation.

(c) Public Service:

The Trustees went a step further than mere compliance with the original bargain which gave to the college for its **erection and maintenance** what remained of the fertilizer tax after paying the cost of inspection and analysis. As this fertilizer tax grew, an increasing effort was made to take the college to the people, and to extend agricultural research to the

other principal soil types of the state. Extension service was early begun, branch stations near Summerville and Florence were established for agricultural research, and cooperative experimental work with farmers was undertaken to test out new varieties and new agricultural methods.

In addition to these activities voluntarily undertaken by the college, the Legislature from time to time placed upon the college regulatory and other duties, without appropriations to support them. These added duties drew heavily upon the college resources and took money that was badly needed to complete the college plant. Tick eradication, live stock sanitary work, plant diseases and nursery control, agricultural and textile scholarships, were added from time to time, the cost of these aggregating $747,325.16, and representing just about what is now needed in the way of buildings and equipment with which to complete the college plant.

The following exhibit gives in detail the items that entered into this expenditure—

Expenditures From Fertilizer Tag Tax for Public Service.

1890 to June 30, 1922.

1. Extension service	$ 127,692.04
2. Live stock sanitary work	109,983.25
3. Crop pests and diseases	33,637.68
4. Branch experiment stations	122,739.98
5. Agricultural research	30,780.86
6. Scholarships	291,429.36
7. Miscellaneous	31,061.99
Total of Service not anticipated in original Bargain	$ 747,325.16
8. Fertilizer inspection and analysis	575,376.81
Total	$1,322,701.97

Summary:

With truth and accuracy it might be said that without appropriation from the State Treasury, the state has acquired property valued at $2,113,379.76; has received public service worth $1,322,701.97; has had graduated nearly 2,000 young men in technical lines, and trained every year for 30 years an average of 675.

The Growth of the College:

Clemson College, whether measured in terms of student attendance or of disbursement for its many activities, has grown far beyond the expectation of its founders and of the Legislature which gave to the college the fertilizer tax in lieu of a direct appropriation for support.

In Attendance:

The growth in attendance is shown in the following table and represents every year the limit of our capacity. Far greater growth would be recorded had we been able to provide dormitory capacity and other facilities for greater numbers.

The exhibit below shows the growth in student attendance from 1893 to the end of the session 1922-23—

Growth of Clemson College in Attendance

1890-1922

1. Average—7 sessions ending 1900	451
2. Average—10 sessions ending 1910	606
3. Average—10 sessions ending 1920	809
4. Attendance 1920-21	847
5. Attendance 1921-22	1,007
6. Attendance 1922-23 (estimated)	1,010

(Above figures do not include Summer School)

In Activities:

On the basis of expenditures, which are a measure of increased attendance and activities, the growth of the college has been even more significant. Taking a period of only twelve years, (this covering my administration as Acting President and as President), and beginning with a smaller attendance and practically no public service, except the fertilizer inspection and analysis, the expenditures due to growth in numbers and college facilities and new lines of service undertaken have gone from $371,888.78 to $1,527,691.27.

Just how this increase has come about is shown by the following exhibit, which covers all funds administered by the college, including funds from counties, legislative appropriations, U. S. government, cadets, etc., etc.

Growth of Clemson in Disbursements.
1909-10 — 1921-22.

Year	Disbursement
1909-10	$ 371,888.78
1910-11	478,273.24
1911-12	521,014.24
1912-13	503,208.26
1913-14	515,478.06
1914-15	597,984.53
1915-16	589,398.02
1916-17	664,744.35
1917-18	775,665.10
1918-19	1,041,537.48
1919-20	1,234,802.57
1920-21	1,508,935.71
1921-22	1,527,691.27

The many-sidedness of the college is shown by the following exhibit of its activities for 1923—

Activities of The Clemson Agricultural College
With Sources of Support.

Calendar Year 1923.

1.	Collegiate work (Fertilizer tax, State appros. and Misc.)	$ 383,343.64
2.	Educational disabled soldiers (Veterans' Bureau)	12,938.35
3.	Vocational teacher-training (State Board, Vocational Education)	27,455.00
4.	Agricultural extension service * (State appropriations, U. S. and county funds)	411,064.93
5.	Agricultural research (State appropriations, U. S. funds, sales)	115,475.00
6.	Agricultural regulatory service (State appropriations, U. S. funds, sales)	234,471.51
7.	Revolving and transfer accounts (Sales and transfers)	64,307.00
8.	Cadet funds Receipts from cadets for board, etc)	233,593.61
9.	Cadet deposits (Cadet deposits)	66,441.67
	Total	**$1,549,090.71**

*$126,744.33 of this for Home Demonstration Work by Winthrop College.

All of the items of the above list, except the first, are insured by State and U. S. appropriations and other sources of revenue.

It is the heart of the enterprise—the teaching work of the college—which is in jeopardy.

The Fertilizer Tax No Longer Adequate:

For nearly a third of a century the Trustees have kept strictly to the original bargain, and Clemson College has gone forward without appropriations for its collegiate work or appropriations for buildings and equipment.

As the average fertilizer tax increased, the Trustees developed the college in size and diversity, always putting aside a little for buildings and equipment which had to go hand in hand with growth in numbers and educational facilities.

However, with the beginning of the year in 1914 conditions changed radically. The fertilizer tax fluctuated greatly, reaching a low figure during the year following the "buy-a-bale" movement. Costs also greatly increased. Not only was there no longer any margin left for buildings and equipment, the operating costs reached a figure which required a fertilizer tax around $250,000.00 to meet the cost of inspection and analysis and the costs of college operation.

In the face of an increase of 20 percent in attendance in 1921 the fertilizer tax dropped from $313,472.54 (the figure of 1920) to $167,505.16 in 1921. That year it was necessary to borrow $112,842.11 of the $150,000.00 loan authorized by the General Assembly at their 1921 session. In 1922 the tax still further declined to $126,118.07, the lowest in seventeen years. Again the deficit had to be met by a loan, this time for the full amount authorized, $150,000.00 These loans were made from the State Treasurer and not made from the Sinking Fund Commission.

The deterioration of the financial condition of the college is clearly shown by the following statement—

Financial Conditions Without State Appropriations.

Fiscal Year Ending	Fert. Tax	Loans	Indebtedness	Balance Carried Forward	Actual Deficit
7-1-1920	$313,472.54	$ None	$ None	$154,413.03	$ None
7-1-1921	167,505.16	None	None	77,209.35	None
7-11-922	126,118.07	112,842.11	112,842.11	71,502.87	41,339.24
	Estimated			Estimate	
7-1-1923	150,000.00	150,000.00	251,557.90	58,290.12	193,267.78

It will be seen from the above that the college reserve carried forward on July 1, 1920 to pay the operating costs during the barren six months, July 1st to December 31st, has been consumed, and at the close of this fiscal year the college will be in debt $193,267.78, with the added burden of having to pay one-tenth of the principal sum and 6 percent interest until the debt is liquidated. Evidently the end of the borrowing policy has been reached. Our loans were made with the hope that the fertilizer tax would come back to normal figures and we could repay what we had borrowed just as we repaid in 1916 the loan of $62,400.00 out of the fertilizer tax recepts of the three succeeding years. But it is my deliberate judgment that not for many years, if ever, will the fertilizer tax be sufficient to meet even our bare operating necessities, increased as they are by increased attendance and still inflated costs of materials.

College Budget for 1923:

The detailed college budget for the calendar year 1923, and including all college funds, is in the hands of the Budget Secretary. It may be briefly summarized as follows—

College Activity.

Calendar Year 1923.

Estimated Expenditures:

1. Superintendence and Records	$ 30,583.68
2. Collegiate Instruction	288,747.03*
3. Upkeep of Buildings and Grounds	33,021.91
4. Public Utilities	29,491.02
5. Summer School	1,500.00
Total	**$383,343.64**

*Item 2 includes $40,249.26 as 6 percent interest and one-tenth the principal on 1921 and 1922 loans from State Treasurer, and $22,300.00 for scholarships.

Estimated Resources:

6. Interest on Clemson Bequest		$ 3,512.36
7. Interest on Landscrip		5,754.00
8. Morrill & Nelson Funds (U. S.)		25,000.00
9. Estimated Tuition and Fees		20,000.00
10. Estimated Rents and Misc. Receipts		23,000.00
		$ 77,266.36
11. Estimated Fert. Tax 1923	$150,000.00	
Less cost of Inspection	33,570.00	116,430.00
		$193,696.36
12. Est'd. Bal. on 1922 Loan, Jan. 1, 1923		58,775.98
		$252,472.34
13. **Necessary State Appropriation**		**130,871.30**
Total		**$383,343.64**

Assistance Needed.

If the Legislature will **authorize** the expenditure of the items of income 6 to 11 inclusive, the direct appropriation would not exceed $130,871.30. Such a course is recommended by our Board of Visitors, and for obvious financial reasons would be the most expedient solution under present financial conditions. To make the total appropriation of $383,343.64 would load the State Budget with a large increase not really representing an additional cost to the state.

If the state sees fit to cancel the loans which have been made from the State Treasurer (on the sound theory that there is no use in appropriating money with which to pay off a debt to itself) then the amount of appropriation requested may be reduced to $90,622.04.

If the fertilizer tax in 1923 goes beyond the estimated figure, then the appropriation can be curtailed by whatever amount the fertilizer tax exceeds $150,000.00. With the realization that ample fertilizing is one of the factors in the control of the boll weevil, it is entirely possible that the fertilizer tax may go to $200,000.00, or higher, in which case only $40,622.04, or less, of the appropriation made would be required.

General Comments on Budget:

The budget above presented represents a normal budget as appropriated by the Board of Trustees at their meeting last July for the fiscal year 1921-22.

With the exception of $40,249.26, which must be forthcoming during 1923 as a payment on our loans, there are no increases in the totals submitted for the calendar year 1923.

No increases in salary over those of 1922 are included.

The cost of materials, shop and laboratory equipment, etc., is somewhat increased because of the increase of 20 percent in attendance.

Buildings:

Because of present financial conditions, no buildings are included in the 1923 budget, although our dormitories are now inadequate to meet persent demands, and the college plant lacking in facilities that every first-rate college should have. The following exhibit shows the necessary buildings for present and prospective attendance, with approximate cost—

Buildings	For present(1,000) Attendance	For Attendance of 1,200	For Attendance of 1,500
1. Dormitories	$ 75,000.00(1)	$150,000.00(2)	$225,000.00(3)
2. Gymnasium	125,000.00	125,000.00	150,000.00
3. Hospital	50,000.00	50,000.00	65,000.00
4. Library	75,000.00	75,000.00	75,000.00
5. Live Stock Pavilion	10,000.00	10,000.00	10,000.00
6. Physics Building	75,000.00	75,000.00	75,000.00
7. Horticult. & Ext'n Bldg.	50,000.00	50,000.00	50,000.00
8. Textile Dept. Addition	10,000.00	25,000.00	50,000.00
9. Agri. Hall Addition		25,000.00	25,000.00
10. Chapel Addition		25,000.00	25,000.00
11. Mess Hall Addition		20,000.00	25,000.00
12. Greenhouse		5,000.00	5,000.00
13. Shop Buildings		30,000.00	30,000.00
14. Chemistry Building			50,000.00
15. Hard Surfaced Roads (2 miles)	60,000.00	60,000.00	60,000.00
16 Additional Major Equip.	10,000.00	28,500.00	42,300.00
	$530,000.00	$725,000.00	$920,000.00
17. Totals	$540,000.00	$753,500.00	$962,300.00

The present **per capita cost** of education to the State of South Carolina is approxmately $300. With an attendance of 1,200, the per capita cost would be approximately $275.00; and with 1,500, $235.00.

Explanation of Budget

Item 1. Superintendence and Records—($30,583.68):

Under this heading are included the salaries and the cost of operating the offices of the President, the Treasurer, the Registrar and the Director of Student Affairs. Aside from salaries, the largest items are for travel, including the travel of Trustees, Boards of Visitors, Legislative Committees, etc., office supplies and miscellaneous materials entering into the operation of executive and clerical offices. There is no increase over the previous year.

Item 2. Collegiate Instruction—($288,747.03):

As in all colleges, the largest item of expense is the item of **salaries.** The scale of salaries at Clemson is very moderate. During the period of inflation the total increase in our salary account was only about 22 percent. Since the war, college salaries generally have not decreased—in fact, they are still on

the up-grade. At Clemson, however, no increase in salaries over those in force in 1922 is requested.

In technical colleges such as Clemson, salaries are usually higher than in non-technical colleges, because they have to compete with business corporations as well as with other colleges. In spite of that, the average salary at Clemson is probably lower than at any other state college for men in South Carolina, except at the negro college at Orangeburg.

The figures below, compiled by the U. S. Bureau of Education in December, 1922, shows the averages of 73 colleges and universities as compared with the averages at Clemson. At Clemson no rent-free houses or other perquisites are given. Each officer receives a cash salary and nothing more.

	Pres.	Deans or Director,	Profs.	Assoc. Profs.	Asst. Profs.	Instr's...
Averages 73 Colleges and Universities	$8,482	$4,250	$3,392	$2,800	$2,300	$1,800
Clemson Averages	**6,000**	**3,650**	**2,808**	**2,288**	**2,035**	**1,625**

The item for **supplies** at a college like Clemson is necessarily large because of the consumption of steel, iron, wood, chemicals, glassware, etc., in its shops and laboratories. The upkeep of tools, machinery and apparatus used in teaching is also a large item. To illustrate—the expense of the Foundry Division is $2,425.00; of the Wood Shop, $1,425.00; of the teach-ink work in Dairying, $3,906.66; in Horticulture, $3,060.00. These costs incurred only by a technical college can neither be avoided nor reduced, unless the cost of labor and materials declines, and they increase in proportion to the number of students instructed. The college must pay these costs unless we follow the fashion of many colleges to require the students to pay a shop and laboratory fee to cover them.

The item for **educational equipment** is also large in a technical college. Evidently most of the colleges classify this under operating expense. It includes electrical instruments, microscopes, balances, pruning shares, agricultural implements, and

a hundred other items necessary to give technical instruction and to keep technical laboratories up to date. To withhold these necessary facilities for teaching would be to betray the trust of students whose money and precious time are being devoted to the pursuit of an education.

Under the head of "collegiate instruction" is also the cost of insurance, scholarships, payment of interest and principal on debt, etc., etc.

Item 3. Upkeep of Buildings and Grounds—($33,021.91):

Clemson College is a small village consisting of the public buildings and more than sixty residences for teachers and officers. All residences are rented and the rent more than offsets the cost of the upkeep. Of course in so large a plant it is not practicable to confine the work to repairs, as additions and changes in buildings used for instruction are constantly necessary.

The college property contains 1,560 acres, with 21 miles of road, and probably five miles of concrete and dirt sidewalks. The upkeep of these is an item of no small cost and importance.

Item 4. Public Utilities—$29,491.02:

While ideally situated so far as city distractions go, Clemson suffers the necessity of having to maintain its own public utilities, such as a heating and power plant, water works, sewer system, telephone system, and the usual features for law enforcement common to a small village.

Item 5. Summer School—($1,500):

From small beginnings Clemson College is gradually building up an excellent summer school, placing stress upon the additional training of teachers. Last summer we had in attendance 234 students, this summer 478, and next summer the total will probably reach seven or eight hundred. The appropriation requested is for summer school teachers. No additional appropriation is necessary for equipment, as the regular college equipment and facilities are used for summer school work.

CONCLUSION

Operating on a most economical basis, the budget of the college work for 1923 represents, when efficiency is considered, an almost irreducible minimum, and at the same time a model of low cost for the education of one thousand students in technological lines—the most expensive form of education that can be given and the most important in an agricultural state. The college cannot be operated at its present scope without the appropriations requested. As faithful public servants charged with the responsibility of administering the state's largest college for men,—a college which represents vocationally 85 percent of our people,—the Trustees bring these facts to the attention of the Legislature. The state and the college entered into the original plan to erect and maintain the college on the fertilizer tax for the very purpose of giving Clemson an adequate support, independent of legislative appropriations. Neither the Legislature nor the Board could foresee the great expansion of the college or present financial condition. These conditions imperil the very purpose for which that bargain was made.

In this dilemma we must ask the Legislature to guarantee us a sufficient sum to operate on a normal basis, or we must reorganize the college on the basis of a smaller faculty and a smaller student body. With the demands of the times for trained men and the demands of the state for the education which Clemson is giving, such an alternative is unthinkable.

Already perhaps have we clung too long to an inadequate support which left nothing for buildings and for growth. Not many years ago Clemson was the envy of all the colleges in

the south because of its relative attendance and resources. Today I do not know of an agricultural and mechanical college in the South (with the exception of Auburn and the Georgia School of Technology), which have not practically doubled their financial resources. Meantime, for the want of money with which to build additional dormitories and provide accompanying facilities, our growth has been checked and during the last two years our very existence threatened. We have come to the end of our resources and our credit. There is nothing left to do but ask the appropriation necessary to supplement the fertilizer tax during these years of agricultural depression.

The responsibility rests with the Legislature, and I am sure that it will be met sympathetically and wisely by that honorable body with whom the President, Faculty and Trustees of Clemson College are but the partners in a great public enterprise.

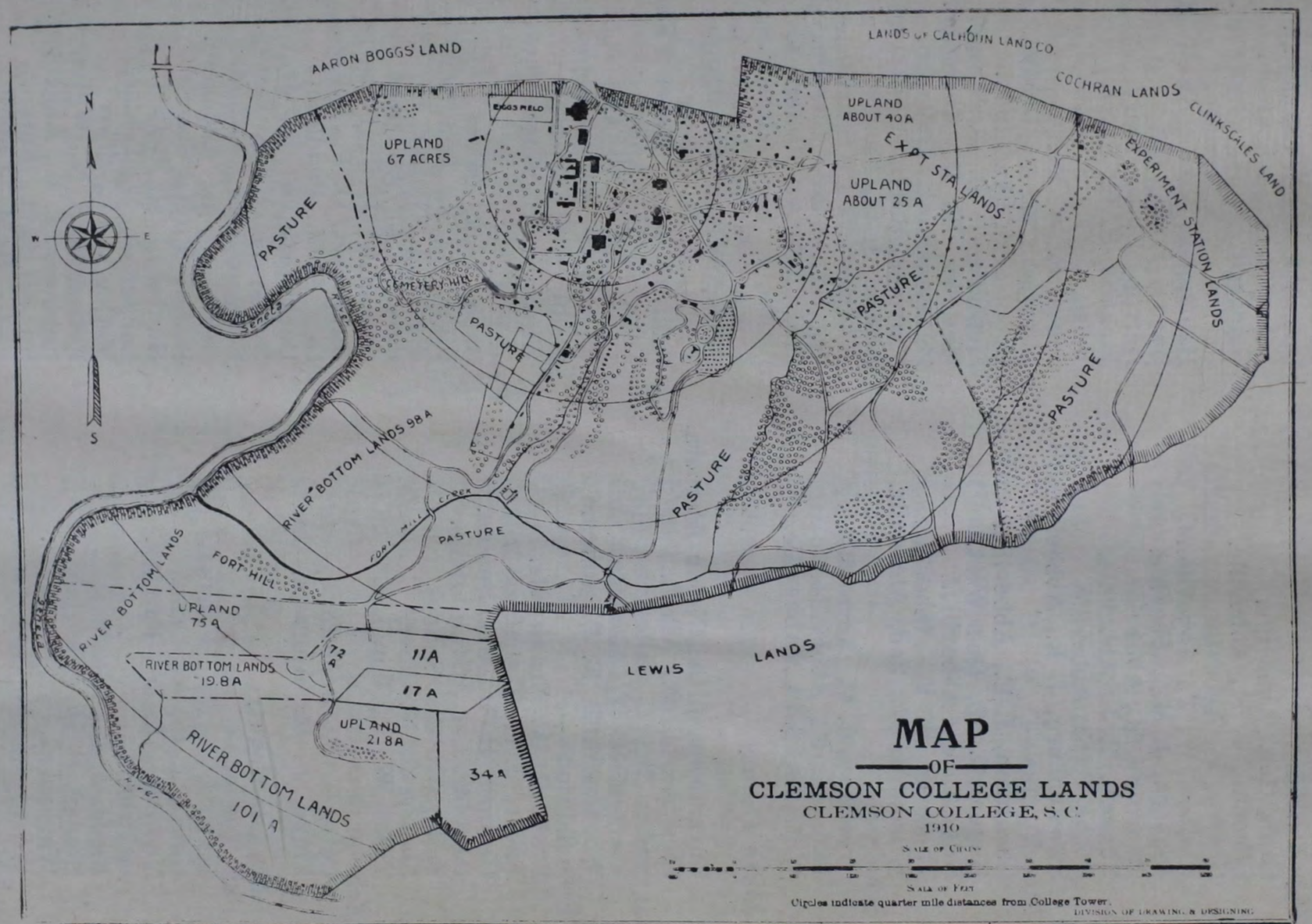
Respectfully submitted,

W. M. RIGGS,
President Clemson College.

Attached also are reports of the following officers—

P. S.—As required by law, I present herewith a list of students who pay tuition, those who do not, and those who hold scholarships.

1. The Treasurer.
2. The Auditor.
3. The Board of Visitors.
4. The Director of Experiment Station.
5. The Director of Extension Service.
6. The Secretary of the Fertilizer Board.
7. The Chief Chemist.
8. The State Entomologist and State Pathologist.
9. The State Veterinarian.
10. The report on Clemson College of Experts to the Legislature Committee on Economy and Consolidation.
11. An historical sketch of the founding of Clemson College.



MAP

OF

CLEMSON COLLEGE LANDS

CLEMSON COLLEGE, S. C.

1910

SCALE OF CHAINS

SCALE OF FEET

Circles indicate quarter mile distances from College Tower.

DIVISION OF DRAWING & DESIGNING

CLASSIFICATION OF STUDENTS AS REGARDS PAYMENT OF TUITION AND HOLDING OF SCHOLARSHIPS.

Abbeville County
Pay Tuition—
Cann, Geo., Abbeville.
Coleman, J. F., Abbeville.
Graves, P., Abbeville.
Hughes, W. T., Abbeville.
Johnson, J. M., Abbeville.
Moore, W. H., Abbeville.
Rheams, T. J., Abbeville.
Roche T. G., Abbeville.
Sweetenburg, J. R., Abbeville.
Free Tuition—
Cheatham, J. C., Abbeville.
Hagen, C. M., Due West.
Hill, A. M., Abbeville.
Thornton R. F., Abbeville.
Wilson, J. W., 2nd, Abbeville.
Scholarship—
Crowther, C. C., Antreville.
Tate, H. F., Abbeville.
Williams, S. A., Abbeville.

Aiken County
Pay Tuition—
Burkmeyer, L. A., North Augusta.
Eubanks, J. B., Aiken.
Salley, H. D., Salley.
Sawyer, G. W., Monetta.
Woodward, T. E. P., Aiken.
Free Tuition—
Byrd, D. A. Granitville.
Faust, O. L., Ketchings Mill.
Howard, H. H., Graniteville.
Reardin, J. L., Graniteville.
Salley, N. L., Salley
Shealy, A. N., Perry.
Tyler, W. P., Windsor.
Scholarship—
Cate, H. T., Monetta.
Floyd, A. R., Augusta, Ga.

Allendale County
Pay Tuition—
Folk, J. L., Jr., Fairfax.
Guess, J. P., Appleton.
Youmans, L. W., Fairfax.
Free Tuition—
Keele, J. H., Allendale.
Stoney, P. D., Allendale.
Warren, G. W., Appleton.
Warren, J. T., Appleton.
Scholarship—
Martin, B. R., Alendale.
Youmans, M., Fairfax.

Anderson County
Pay Tuition—
Ashley, A. R., Honea Path.
Beacham, J. E., Honea Path.
Clatworthy, W. M., Honea Path.
Dacus, J. A., Williamston.
Dean, F. F., Anderson.
Gambrell, F. L., Pendleton.
Griffin, J. K., Belton.
Hammond, W. S., Sandy Springs.
Hanks, S. H., Iva.
Herron, L. P., Starr.
Jackson, S. L., Starr.
Jones, J. F., Starr.
Jones, R. W. Starr.
Littlejohn, C. M., Belton.
Lyon, J. J., Anderson.
McClure, T. B., Anderson.
McCown, W. H., Anderson.
McLees, F. C., Anderson.
Pearman, S. N., Jr., Starr.
Pepper, J. O., Easley.
Petigrew, G. P., Starr.
Prevost, F H., Anderson.
Pruitt, B. A., Anderson.
Pruitt, R. S., Anderson.
Shirley, W. J., Anderson.
Sloan, W A., Anderson.
Smith, B. M., Starr.
Sullivan, A. A., Honea Path.
Tate, R. H., Anderson.
Thompson, J. T., Anderson.
Watson, P. J., Anderson.
Webb, J. H., Anderson.
Wilson, G. C., Honea Path.
Free Tuition—
Babb, Jack, Pelzer.
Bigby, L. S., Anderson.
Blythe, L., Pelzer.
Burriss, A., Anderson.
Crenshaw, J. C., Pelzer.
Davenport, O. F., Belton.
Day, E. S., Pendleton.
Duckworth, B. F., Jr., Anderson.
Dunlap, J. M., Anderson.
Erskine, J. H,, Anderson.
Griffin, R. L., Anderson.
Hodge, B. H., Starr.
Hunter, J. V., Belton.
Lander, A. M., Pelzer.
McGee, J. A., Starr.
Patterson, S. N., Williamston.
Robinson, J. M., Anderson.
Russell, B. A., Autun.
Spear, G. M., Anderson.
Stewart, E. C., Pelzer.
Strickland, P. E., Belton.
Turner, G. E., Anderson.
Wigington, J. T., Anderson.
Wilhite, F. T., Anderson.
Wilson, C. W., Anderson.

CLASSIFICATION OF STUDENTS AS REGARDS PAYMENT OF TUITION AND HOLDING OF SCHOLARSHIPS (Continued)

Scholarship—
Bagwell, J. C., Honea Path.
Burriss, W. F., Anderson.
Cannon, C. B., Honea Path.
Gaines, J. G, Honea Path
Garvin, P. M., Pendleton.
Smith, E. L., Anderson.
Sulivan, J. M., Anderson.

Bamberg County
Pay Tuition—
Cox, J. P., Denmark.
Price, G. E., Bamberg.
Turnipseed, B. R., Bamberg.
Free Tuition—
Bamberg, G. P., Bamberg
Hutto, D. F., Denmark.
Price, L. C., Bamberg.
Sojourner, J. H., Denmark.
Zeigler, F. M., Denmark.
Zeigler, R. L., Denmark.
Scholarship—
Hutto, W. D., Bamberg.
Rowell, W. H., Bamberg.

Barnwell County
Pay Tuition—
Hair, A. B., Blackville.
Hair, D. H., Blackville.
Hall, E. H., Great Falls.
Lemon, A. N., Barnwell.
Owens, W. R., Denmark.
Willis, M. A., Williston.
Free Tuition—
Armstrong, J. B., Barnwell.
Dyches, L. B., Blackville.
Ray, W. S., Blackville.

Beaufort County
Pay Tuition—
Bellamy, R. H., Beaufort.
Marscher, A. A., Beaufort.
Peeples, Andrew, Bluffton.
Peeples, Philip, Bluffton.
Peeples, T. S., Bluffton.
Randall, H. W., Beaufort.
Ricker, E. C., Beaufort.
Ricker, G. F., Beaufort.
Weatherson, J. C., Bluffton.
Free Tuition—
Mann., W. E. Beaufort.
Sanders, E., Beaufort.

Berkeley County
Pay Tuition—
Sanders, J. S., Wandow.
Free Tuition—
Harvey, O. J., Summerville.
Harvey, R. T., Pinopolis.
Rudloff, J. H., Pinopolis.
Scholarship—
Smith, J. E., Ridgeville.

Calhoun County
Pay Tuition—
Banks, R. W., St. Matthews.
Jordon, W. E., St. Matthews.
Keller, W. A., St. Matthews.
Tabor, W. P., Fort Motte.
Free Tuition—
Cauthen, H. W., Fort Motte.
Crook, A. L., Cameron.
Hane, Whitfield, St. Matthews.
Laird, A. S., St. Matthews.
Rast, W. M., St. Matthews.
Summers, D. K., Cameron.
Scholarship—
Herlong, E. S., St. Matthews.
McGowan, W. D., Cameron.
Stabler, F. W., North.

Charleston County
Pay Tuition—
Bee, S. S., Charleston.
Blount, T. C., Charleston.
Capplemann, G. J. S., Charleston.
Dotterer, E. G., Charleston.
Ferguson, J. L., Charleston.
Frazier, P. M., Mt. Pleasant.
Geraty, J. W., Youngs Island.
Grice, G. D., Charleston.
Harrison, J. M., Charleston.
Livingston, D. F., Charleston.
Martin, J. V., Charleston
Mikell, I. J., Edisto Island.
Mikell, S. H., Edisto Island.
Nimitz, A. E. Charleston.
Prause, O. B. Charleston.
Riley, A. J., Charleston.
Rittenburg, A. A., Charleston.
Rittenburg, M. R., Charleston.
Royal, J. E., Mt. Pleasant.
Sanders, B. K., Young's Island.
Silcox, D. H., Mt. Pleasant.
Stello, L. T., Charleston.
Stevens, J. F., Youngs Island.
Stevenson, C. A., Charleston.
Welling, E. C., Charleston.
Wieters, H. C., Charleston.
Wieters, O. H., Charleston.
Free Tuition—
Bunch, R. L., Charleston.
Davis, R., Martins Point.
Denaro, J. M., Charleston.
Jenkins, E. M., Edisto Island.
Kirkley, C. L., McClellanville.
Lowry, H. E., Charleston.

CLASSIFICATION OF STUDENTS AS REGARDS PAYMENT OF TUITION AND HOLDING OF SCHOLARSHIPS (Continued)

McCants, L. A., Mt. Pleasant.
O'Neal, B., Charleston.
Reid, D. A. Charleston.
Seabrook, O. F., Charleston.
Seabrook, T. H., Charleston.
Venning, R. M., Mt. Pleasant.

Scholarship—
Bailey, E. M., Martins Point.
Linder, E. O., Adams Run.
Pinckney, A. G., Charleston.
Spearman, J. M., Charleston.
Townsend, J. C., Martins Point.
Whaley, E. C., Charleston.

Cherokee County

Pay Tuition—
Davidson, J. B., Gaffney.
Hall, R. E., Gaffney.
Hardin, R. L., Blacksburg.
Jeffries, T. L., Gaffney.
King, J. N., Gaffney.
McArthur, W. J., Gaffney.

Free Tuition—
Brown, J. J., Gaffney.
Inman, A. K., Wilkinsville.
Smith, T. D., Blacksburg.

Scholarship—
Mullins, D. H., Gaffney.
Tolleson, L. C., Gaffney.

Chester County

Pay Tuition—
Darby, J. E., Lowryville.
Ford, R. F., Richburg.
Hambright, W. A., Kings Creek.
Hardin, J. C., Chester.
Kilgore, J. D., Richburg.
Murr, B. L., Chester.
Reid, J. L., Chester.
Reid, W. J., Richburg.
Shannon, J. R., Blackstock.
Tibbs, R. H., Great Falls.
Wade, W. M., Lowryville.
White, J. A., Chester.

Free Tuition—
Bankhead, J. M., Lowryville.
Bell, S. L., Chester.
Bennett, H. J., Chester.
Gaston, J. P., Rodman.
Hollis, P. T., Richburg.
Reid, T. B., Clover.
Robbins, B. R., Chester.
Simpson, W. W., Richburg.
Stevenson, H. F., Richburg.
Wade, G. L., Chester.
Woodward, A. J., Chester.

Scholarship—
Ligon, G. T., Richburg.
Stevenson, D. W., Richburg.
Stevenson, R. A., Richburg.
Stevenson, T. C., Chester.

Chesterfield County

Pay Tuition—
Knight, T M., Cheraw.
Odom, W. H., Chesterfield.

Free Tuition—
Blakney, L. R., Pageland.
Knight, H. D., Angelus.
McArn, D. H., Cheraw.

Scholarship—
Thrower, J. H., Cheraw.

Clarendon County.

Pay Tuition—
Davis, L. A., Manning.
McIntosh, C. H., New Zion.

Free Tuition—
Bagnall, W. B., Manning.
Hodge, J. E., Manning.
Richburg, J. C., Sumerton.
Wilson, H. L., Manning.

Scholarship—
Harvin, J. L., Pinewood.
Plowden, E. D, Jordan.
Timmons, J. H., Manning.

Colleton County

Pay Tuition—
Boynton, C. W., White Hall.

Free Tuition—
Kinard, J. A., Ruffin.
Sanders, H M., Walterboro.
Smyly, J. W., Ruffin.
Thomas, J. H., Ruffin.
Willis, H. A., White Hall.

Scholarship—
Sanders, K. B., Walterboro.
Smith, R. H., Smoaks.

Dillon County

Pay Tuition—
Alford, E. L., Latta.
Elliott, J. F., Dillon.
Hargrove, F. W., Dillon.
McCormack, E. A., Dillon.
McCormack, J. H. Dillon.
Norton, J. C., Dillon.
Sherwood, R. Y., Dillon.

Free Tuition—
Hamilton, S. S., Dillon.
Hargrove, J. C., Dillon
LeGette, M. A., Latta.
Rogers, E. B, Dillon.

Scholarship—
Allen, A. C., Dillon.
Freeman, M. H., Latta.

CLASSIFICATION OF STUDENTS AS REGARDS PAYMENT OF TUITION AND HOLDING OF SCHOLARSHIPS (Continued)

Herring, Foster, Homer.
McLeod, T. E., Bingham.
McLeod, N. A., Bingham.

Dorchester County
Pay Tuition—
Ackerman, T. H., St. George.
Henry, D. W., Jr., St George.
Utsey, C. H., Harleyville.
Free Tuition—
Allan, A. N., Summerville.

Edgefield County
Pay Tuition—
Folk, J. R., Edgefield.
Madden, E. C., Edgefield.
Thurmond, J. S., Edgefield.
Free Tuition—
Talbert, E. H., Edgefield.

Fairfield County

Pay Tuition—
Blair, J. W., Blair.
Jones, M. L., Longtown.
McMeekin, F. R., Monticello.
McMeekin, S. C., Jenkinsville.
Robinson, C. A., Jr., Winnsboro.
Free Tuition—
Cathcart, A. B., Winnsboro.
Chappels, I. W., Jenkinsville.
Glenn, H. Y., Wallaceville.
Hardin, W. R., Winnsboro.
Jennings, F. C., Winnsboro.
Tennant, A. B., Winnsboro.
Scholarship—
Chappels, E. D., Jenkinsville.
Harvey, S. A., Woodward.

Florence County

Pay Tuition—
Benton, L. L., Timmonsville.
Evans, M. A., Pamplico.
Huggins, Marion, Timmonsville.
Mathews, S. C., Scranton.

Free Tuition—
Edwards, T. H., Jr., Mars Bluff.
Finklea, G. I., Florence.
Hawkins, G. E., Timmonsville.
Hinson, H. L., Scranton.
Jeffords, G. P., Timmonsville.
Johnston, R. H., Florence.
Moore, P. W., Florence.
Whitton, J. E., Florence.

Scholarship—
Hinson, I. L., Scranton.
Kennedy, F. L., Pamplico.
Shands, R. G., Ebenezer.

Georgetown County
Pay Tuition—
Camlin, G. H., Andrews.
Jones, D. B., Georgetown.
Rosa, J. R., Georgetown.
Scholarship—
Bailey, Z. M., Andrews.
Doar, L. H., Georgetown.

Greenwood County
Pay Tuition—
Cothran, G. T., Greenwood.
Graham, R. N., Hodges.
Henderson, T. P., Greenwood.
Jackson, M. E., Greenwood.
Mounce, J. L., Greenwood.
Rasor, A. B., Donalds.
Rodgers, H. W., Callison.
Rodgers, S. A., Callison.
Seago, J. A., Greenwood.
Snead, C. B., Greenwood.
Warner, M. R., Greenwood.
Free Tuition—
Bell, R. F., Callison.
Cothran, F. H., Greenwood.
Garrett, W. F., Greenwood
Knight, O. J., Ware Shoals.
Marshall, J. W., Greenwood.
Martin, B. F., Ninety Six.
Warner, J. D., Greenwood.
Scholarship—
Brissie, M. B., Hodges.
Martin, F. G., Ninety Six.
Roberts, W. J., Ninety Six.
Shirley, L. R., Greenwood.
Vines, J. R., Greenwood.
Woodle, H. A., Greenwood.
Young, C. T., Greenwood.

Greenville County
Pay Tuition—
Allen, C. S., Greenville.
Anderson, A. J., Greenville.
Ballinger, W. M., Greer.
Ballentine, W. L., Greenville
Batson, J P., Greenville.
Bryan, Geo. T., Greenville.
Cothran, A. H., Toney Creek.
Croskeys, H. G., Piedmont.
Cunningham, J. L., Greer.
Davis, E. P., Greenville.
Fayssoux, F. S., Greenville.
Fleming, H. G., Greenville.
Gillfillin, J. M., Greenville.
Jacobi, L. W., Greenville.
LaBoone, F. D., Taylors.
Leach, M. R., Greenville.
Marler, J. A., Fountain Inn.
Marshall, D. H., Greenville.

CLASSIFICATION OF STUDENTS AS REGARDS PAYMENT OF TUITION AND HOLDING OF SCHOLARSHIPS (Continued)

Morgan, B. A., Greenville.
McKinney, R. B., Simpsonville.
Norris, J. A., Piedmont.
Reese, M. R., Greer.
Williams, W. B., Greenville.
Woodside, H. R., Greenville.

Free Tuition—
Armstrong, H., Fountain Inn.
Baumann, J. H., Greenville.
Berry, J. B., Greenville.
Bobo, L. Greenville.
Freeman, J. L., Greenville.
Givins, J. W., Fountain Inn.
Halohan, R. F., Marietta.
Halohan, V. J., Marietta.
Hellams, J. I., Travelers Rest.
Henderson, H. J., Greenville.
Hopkins, J. B., Greenville.
Howie, J. L., Greenville.
Jones, J. W., Greenville.
Jordon, S. B., Greenville.
Mackey, J. R., Piedmont.
Moore, C. M., Simpsonville.
Pope, Thos. H. Jr. Greenville.
Robertson, T. B., Greenville.
Shanklin, J. A., Greer.
Smith, C. E., Greenville.
Stewart, J. T., Simpsonville.
Taylor, F. W., Fountain Inn.
Woodside, H. F., Greenville.

Scholarship—
Miller, C. L., Greenville.
McCrary, M. L., Greenville.

Horry County

Pay Tuition—
Derham, E. M., Green Sea.
Fowler, F. J., Loris.
King, C. B., Myrtle Beach.
Long, C. B., Conway.
Williams, L. P., Conway.
Williamson, J. G., Tabor.

Free Tuition—
Altman, H. S., Gallivants Ferry.
Lewis, J. G., Aynor.
Smith, S. T., Conway.

Scholarship—
Causey, L. G., Tabor.
Dorman, J. K., Conway.
Harrellson, E. A., Nichols.

Hampton County

Pay Tuition—
Causey, M. O., Furman.
Gooding, P. H., Crocketville.
Maner, J. K., Garnett.
Mason, J. E., Scotia.
Molair, W. L., Furman.

Free Tuition—
Carter, R. E., Varnsville.
Godbold, Asa, Estill.
Lang, G. B., Garnett.
Lightsey, L. M., Hampton.
Mason, W. A., Estill.
Miley, L., Brunson.
Mixon, A. B., Furman.
Thomas, F. E., Hampton .
Wiggins, E. C., Garnett.
Wiggins, J. E., Garnett.

Scholarship—
Burriss, H. A., Hampton.

Jasper County

Scholarship—
Fripp, W. T., Tillman.
Parnell, H. N., Gillisonville.

Kershaw County

Pay Tuition—
Jones, E. L., Liberty Hill.
Lenoir, T. W., Rembert.
Porter, H. S., Camden.
Truesdale, J. P., Kershaw.

Free Tuition—
Cook, W. C., Lancaster.
Nettles, H. E., Lugoff.
Tiller, H. C., Bethune.

Scholarship—
Clark, T. H., Camden.
Goodale, Edwin, Camden.
Richards, J. P., Liberty Hill.

Lancaster County

Pay Tuition—
Bailes, J. P., Fort Mill.
Bailes, W. B., Fort Mill.
Crenshaw, L. C., VanWyck.
Culp, T. F., Lancaster.
Williams, E. B., Kershaw.

Free Tuition—
Blakney, L. B., Lancaster.
Glenn, J. R., Waxhaw.
Timmons, E. D., Heath Spring.
Timmons, L. C., Heath Spring.

Scholarship—
Harris, O. P., Fort Mill.
Outen, D. L., Kershaw.

Laurens County

Pay Tuition—
Carter, D. E., Clinton.
Cheek, W. L., Ware Shoals.
Clapp, W. J., Clinton.
Copeland, E. W., Laurens.
Dunlap, J. H., Laurens.
Easterby, A. H., Laurens.

CLASSIFICATION OF STUDENTS AS REGARDS PAYMENT OF TUITION AND HOLDING OF SCHOLARSHIPS (Continued)

Fuller, E. P., Laurens.
Gray, R. E., Gray Court.
Griffin, W. F., Cross Hill.
Hunter, H. A., Clinton.
Wood, H. H., Princeton.

Free Tuition—
Albright, G. C., Laurens.
Crisp, C. A., Laurens.
Culbertson, J. A., Ware Shoals.
Davis, T. W., Clinton.
Knight, A. J., Ware Shoals.
Templeton, J. B., Clinton.
Wallace, N. L., Ora.
Wallace, T. P., Ora.

Scholarship—
Holmes, J. S., Mountville.
Wofford, G. C., Laurens.

Lee County

Pay Tuition—
Bateman, E. D., St. Charles.
McLendon, J. R., Bishopville.

Lexington County

Pay Tuition—
Rutland, H. M., Batesburg.
Smith D. P., Leesville.

Free Tuition—
Fink B. L., Batesburg.
Hartley, R. L., Batesburg.
Hiller, R. E., Chapin.
Koone, H. E., Peaks.
Manus, W. B., New Brookland.

Marion County

Pay Tuition—
Craven, W. H., Gresham.
Mace, J. C., Marion.
Mace, K. M., Courtenay.
Rogers, J. F., Mullins.

Free Tuition—
Cartwright, A. K., Marion.
Driggers, B. F., Sellars.
Evans, F. A., Marion.
Gasque A. M., Marion.
Hood, H. W., Mullins.
Jones, Chas. O., Mullins.
McMillan, R. W. Courtenay.
Owens, J. B., Marion.

Scholarship—
Jones, C. L., Mullins.

Marlboro County

Pay Tuition—
Crossland, J. W., Bennettsville.
Fletcher, E. G., McColl.
Fletcher, H. W., McColl.
McLaurin, E. B., McColl.
Sherrill, L. H., Bennettsville.
Smith, A. L., Bennettsville.
Smith, O. L., Bennettsville.
Smith, D. R., Clio.
Welch, W. F., Clio.
Wright, J. D., Clio.
Wright, L. C., Clio.

Free Tuition—
Crossland, T. M., Bennettsville.
Dudley, J. E., Bennettsville.
Fletcher, L. A., Bennettsville.
Owens, J. M., Gibson, N. C.

Scholarship—
Howell, L. M., Bennettsville.
Lee, W. L., Clio.
Smith, M. M., Clio.

McCormick County

Pay Tuition—
Boyd, S. A., McCormick.
Britt, W. E., McCormick.
Brown, N. G., McCormick.
Bussey, J. C., Parksville.
Covin, W. F., Willington.
Dorn, J. B., McCormick.
Robertson, J. M., Plum Branch.
Tolbert, J. B., McCormick.

Scholarship—
Sheppard, J. L., McCormick.

Newberry County

Pay Tuition—
Boozer, L., Prosperity.
Coleman, D., Chappells.
Coleman, J. V., Silverstreet.
Epting, C. V., Peaks.
Hipp, Richard, Pomaria.
Huffman, W. C., Little Mountain.
Johnstone, W. P., Newberry.
Leavell, R. H., Newberry.
Leavell, J. I., Newberry.
Parrish, M. E., Newberry.
Sanders, J. L., Silverstreet.
Singley, H. S., Prosperity.
Smith, W. B., Kinards.
Stewart, W. M., Newberry.
Werts, R. B., Newberry.
Wilbur, W. W., Newberry.

Free Tuition—
Boozer, W. M., Newberry.
Counts, O. L., Pomaria.
Epting, C. A., Little Mountain.
Epting, J. C., Little Mountain.
Hardeman, H. W., Newberry.
Miller, J. H., Little Mountain.
Pugh, R. W., Prosperity.
Sease, E. C., Prosperity.
Sease, R. E., Prosperity.
Sease, T. M., Prosperity.
Shealy, N. P., Prosperity.
Spearman, J. H., Newberry.

CLASSIFICATION OF STUDENTS AS REGARDS PAYMENT OF TUITION AND HOLDING OF SCHOLARSHIPS (Continued)

Spearman, W. M., Newberry.
Wallace, F. H., Kinards.
Wheeler, W. C., Little Mountain.
Wise, G. C., Prosperity.

Scholarship—
Aull, J. C., Pomaria.
Goree, I. M., Newberry.
Hunter, J. H., Prosperity.
Kibler, J. W., Pomaria.
Long, L. S., Prosperity.
Smith, D. E., Kinards.

Oconee County

Pay Tuition—
Alexander, J. H.. Walhalla.
Anderson, W. T., Seneca.
Carey, F. L., Seneca.
Davis, C. R., Westminster.
Ellison, C. H., Seneca.
Gillespie, B. B., Seneca.
Goode, C. W., Clemson College.
Heller, J. R., Seneca.
Holmes, A. G., Clemson College.
Martin, M. V., Seneca.
Martin, R. S., Clemson College.
Martin, S. M., Clemson College.
Mills, W. H., Clemson Colelge.
McCarley, C. B., Seneca.
McHugh, J. B., Clemson College.
McMahan, J., Richland.
Norton, J. J., Seneca.
Moss, J. H., Walhalla.
Price, J. H., Townville.
Robertson, B. F., Clemson College.
Schilletter, J. C.. Clemson College.
Seaborn, Geo., Walhalla.
Stribling, D. W., Richland.
Stribling, W. J., Walhalla.
Todd, J. N., Walhalla.
Verner, J. V., Richland.
Wertz, J. B., Clemson College.
Wooten, W. H., Fair Play.

Free Tuition—
Carter, R. W., Westminster.
Coarsey, R. W., Clemson College.
Cox, S. M., Seneca.
Dorn, W. L., Westminster.
Gambrell, R. M., Westminster.
Hewer, J. C., Clemson College.
Hunter, S. C,. Westminster.
Martin, L. I., Westminster.
Mathews, V. L., Clemson College.
Melton, L. H., Clemson College.
Merck. W. L.. Clemson College.
McPhail, W. H., Townville.
Shiver, N. C., Clemson College.
Shockley, J. A., West Union.
Spencer, B., Madison.
Stribling, R. S., Seneca.
Willis, W. T., Westminster.

Scholarship—
Middleton, W. S., Clemson College.
Morris, J. A., Newry.
McPhail, M., Townville.
Shiver, J. C., Clemson College.

Orangeburg County

Pay Tuition—
Bennett, N. C., Holly Hill.
Culler, C. W., Orangeburg.
Dukes, W. A., Branchville.
Dukes, J. H., Orangeburg.
Dukes, O. L., Orangeburg.
Herbert, D. O. Orangeburg.
Kirk, R. S., Eutawville.
Knott, W. T., North.
Mackay, M. S., Orangeburg.
Miley, J. N., Branchville.
O'Cain, H. F., Orangeburg.
Simmons, K. B., Rowesville.
Simmons, T. D., Rowesville.
Till, N. R., Orangeburg.
Tindall, L. N., Vance.
Weeks, J. L., Orangeburg.
Wilson, H. F., Bowman.

Free Tuition—
Ayers, D. C., Orangeburg.
Gibson, J. W., Orangeburg.
Koopman, J. J., Eutawville.
Mosely, J. W., Orangeburg.
Robinson. E. E., Rowesville.
Salley, H. B., Salley.
Savage, E. B.. Eutawville.
Singletary, G. K., Holly Hill.
Smith, T. S., Springfield.
Thompson, E. A., Reevesville.
Till, E. C., Orangeburg.
Traxler, W. C., Bowman.
Traxler, D. W., Bowman.
Vincent, C. E., Orangeburg.
Zeigler. H. J., Orangeburg.

Scholarship—
Hart, T. J., Vance.
Thomas, H. L., Mayesville.
Traxler, H. C., Bowman.

Pickens County

Pay Tuition—
Allgood, L. L., Central.
Cartee, Eugene, Liberty.
Gaines, H. I. Central.
Gaines, T., Central.
Hendricks, L. A., Easley.
Jones, B. K.. Easley .
Kay. A. E.. Easley.
Mathews, D. T., Pickens.

CLASSIFICATION OF STUDENTS AS REGARDS PAYMENT OF TUITION AND HOLDING OF SCHOLARSHIPS (Continued)

Robinson, L. H., Pickens.
Rowland, J. R., Central.
Smith, T. W., Pickens.
Sutherland, J. L., Pickens.
Walker, H. P., Pickens.
Williams, N., Pickens.

Free Tuition—
Cobb, C. N., Easley.
Elli-on M. C., Easley.
Hunter, J. M., Liberty.
Meredith, P. M., Pickens.
Murphy, T. J., Piedmont.
Roark, D., Pickens.
Roark, R. B., Pickens.
Smith, C. R., Easley.

Scholarship—
Arnold, L. W., Central.

Richland County

Pay Tuition—
Asbill, C. M., Columbia.
Bates, H. G., Eastover.
Cobb, W. H., Columbia.
Coleman, E. B., Eastover.
Coleman, R. L., Columbia.
Darby, J. P., Columbia.
Jones, H. J., Congaree.
Sams, J. H., Columbia.
Webb, H. B., Columbia.

Free Tuition—
Bauer, J. W., Columbia.
Brown, Brooks, Blythewood.
Cannon, E. A., Blythewood.
Dominick, H. B., Columbia.
Eleazer, L. H., Chapin.
Guy, B. B., Columbia.
Harmon, S. E., Columbia.
Hollowell, J. G., Columbia.
Hollowell, J. R., Columbia.
Killian, J. M., Columbia .
Lowman, W. R., White Rock.
Lucius, T. L., Eastover.
Madden, L. E., Columbia.
Maxwell, R. E., Columbia.
Meehan, J. L., Columbia.
Price, G. D., Eastover.
Shelamer, A. M., Columbia.
Schoolbred, A., Eastover.
Smith, C. H., Columbia.

Scholarship—
Daniel, H. R., Congaree.
Hoffman, M. B., Blythewood.

Saluda County

Pay Tuition—
Coleman, H. V., Silverstreet.
Coleman, J. M., Silverstreet.
Wise, P. N., Batesburg.

Free Tuition—
Goff, W. E., Leesville.
Merchant, V. E., Chappels.
Quattlebaum, C. A., Ridge Springs.
Waters, P. B., Saluda.

Sumter County

Pay Tuition—
Chandler, J. W., Sumter.
Emanuel, E. H., Bouden.
Friar, E. M., Sumter.
Robinson, A. C., Oswego.
Sanders, C. W., Jr., Hagood.
Sanders, D. M., Hagood.

Free Tuition—
Bass, F. J., Mayesville.
Bradley, N. M., Sumter.
Buck, F. E., Sumter.
Haynesworth, J. R., Sumter.
Mellette, W. W., Sumter.
McGrew, C. J., Wedgefield.
Ryan, F. R., Wedgefield.
Ryan, M. S., Wedgefield.
Thompson, W. J., Rembert.
Wells, W. R., Sumter.

Scholarship—
Haynesworth, C. R., Sumter.

Spartanburg County

Pay Tuition—
Cox, G. W., Greer.
Dean, G. B., Spartanburg.
Fitzgerald, A. B., Spartanburg.
Foster, H. M., Roebuck.
Fuller, R. C., Pacolet.
Gray, W. H., Woodruff.
Hallstead, R. T., Spartanburg.
Johnson, H. L., Spartanburg.
Johnson, B. O., Spartanburg.
Kirkpatrick, J. W., Pacolet.
Lambright, F. L., Landrum.
Lanford, C. E., Spartanburg.
Patterson, J. T., Woodruff.
Pearson, A. S., Woodruff.
Porter, L. W., Jr., Spartanburg.
Sams, M. W., Spartanburg.
Taylor, T. J., Spartanburg.
Thorne, T. F., Landrum.
Turbyfill, W. G., Spartanburg.
Walker, C. F., Spartanburg.

Free Tuition—
Bonner, T. A., Trough
Cannon, W. S., Spartanburg.
Clement, B. L., Spartanburg.
Freeman, E. J., Spartanburg.
Freeman, R. A,. Spartanburg.
Gentry, L. M., Landrum.
Hendricks, T. G., Duncan.

CLASSIFICATION OF STUDENTS AS REGARDS PAYMENT OF TUITION AND HOLDING OF SCHOLARSHIPS (Continued)

Johnson, W. P., Inman.
Lee, R. L., Landrum.
McClimon, M. L., Spartanburg.
Shands, E. H., Campobello.
Trimmier, L. G., Spartanburg.
Vaughan, T. L., Cowpens.
Watkins, E. F., Spartanburg.
West, Walter, Spartanburg.

Scholarship—
Alley, H. W., Spartanburg.
Ezell, B. D., Cherokee.
Morgan, T. W., Welford.
Phifer, G. E., Spartanburg.

Union County

Pay Tuition—
Betsill, J. L., Union.
Burton, C. C., Union.
Calvert, B. A., Jonesville.
Calvert, J. P., Jonesville.
Haas, W. V., Union.
Haas, H. P., Union.
Jefferies, E. E., Union.
Kirby, C. E., Union.
Littlejohn, B. C., Jonesville.
Smith, W. R., Union.

Free Tuition—
Chambers, J. A., Union.
Hollingsworth, P. H., Union.
Howell, R. E., Buffalo.
Humphries, C. G., Union.
Rice, S. C., Union.
Sartor, C. C., Union.
Williams, E. W., Jonesville.

Scholarship—
Chaney, L. J., Sedalia.
Clark, D. C., Union.
Douglas, W. J., Jonesville.
Hopkins, A. P., Buffalo.

Williamsburg County

Pay Tuition—
Coleman, D. N., Cades.
Davis, J. E., Salters.
Gambrell, J. O., Heinemann.
O'Bryan, M. B., Heinemann.
Oliver, M. B., Greelyville.
Register, F. B., Greelyville.
Rhems, C. F., Rhems.

Free Tuition—
Boyles, B. A., Greelyville.
McCullough, T. G., Kingstree.
Steel, H., Kingstree.

Scholarship—
Daniels, D. M., Cooper.
Kirton, M. B., Cades.

York County

Pay Tuition—
Farris, C. D., Rock Hill.
Farris, T. M., Fort Mill.
Fudge, B. R., Rock Hill.
Garrison, C. C., Fort Mill.
Hood, J. M., Sharon.
Kinard, J. P., Rock Hill.
Kinard, O. W., Rock Hill.
Logan, F. R., York.
Quinn, J. W., York.
Stewart, J. M., Rock Hill.
Wray, A. F., York.

Free Tuition—
Blankenship,W. F. Fort Mill.
Erwin, R. M., Fort Mill.
Miller, J. R., York.
Mills, L. F., Fort Mill.
Nichols, J. L., Rock Hill.
Percival, S. M., Rock Hill.
Plexico, P. G., Rock Hill.
Poag, C. W., Rock Hill.
Poag, L. R., Rock Hill.
Roddey, J. D., Rock Hill.
Sharpe, J. M., Rock Hill.
Smith, J. P., York.
Wylie, Clifford, Rock Hill.
Young, L. R., Rock Hill.
Youngblood, J. M., Rock Hill.

Scholarship—
Barron, W. H., York.
Cook, J. M., York.
Glenn, H. S., York.
Gordon, Wm. C., Rock Hill.
Grier, W. H., Fort Mill.
Horton, L. F., Sharon.
Robinson, H. E., Sharon.

Non-Resident Students

Allen, R. E., Chattanooga, Tenn.
Anderson, E. K., Auburndale, Fla.
Bogard, W. P., Russellville, Ark.
Booker, L. R., Charlotte, N. C.
Brimley, R. E., Raleigh, N. C.
Cannon, N. S., Hendersonville, N. C.
Clyatt, O. V., Fort Meade, Fla.
Colbert, F. H., Ardmore, Okla.
Colbert, W. C., Ardmore, Okla.
Coleman, P. W., Anniston, Ala.
Davenport, H. L., Horseshoe, N. C.
Dicks, R. L., Lakeland, Fla.
Dunham, F. E., Stewart, Fla.
Ellzey, T. A. M., Clio, Ga.
Floyd, T. H., LaGrange, Ga.
Freeland, B. W., Crawley, La.
Gilbert, W. W., Charlotte, N. C.
Graham, G. B., Charlotte, N. C.
Harding, T. L., Yadkinsville, N. C.
Johnson, C. S., Jacksonville, Fla.
Kehew, C. L., Arlington, Mass.
Kent, Geo. L. Bloomfield, N. J.
Lehman, E. R., LaGrange, Ga.
Longley, J. M., LaGrange, Ga.
Lucas, T. T., Charlotte, N. C.
Mann, W. T., Stevenson, Ala.
Melson, H. R., Hogansville, Ga.
Muthaiah, A D, India
Parker, E. C, Grover, N. C.
Redfern W. M., Wadesboro, N. C.
Robbins, J. R., Marion, Ala.
Roberts, O. A., Walters, Okla.
Sanford, R. L., Athens, Ga.
Sanftleben, D. A., Jamica, B. W. I.
Sligh, W. D., Norfolk, Va.
Smith, F. V., Charlotte, N. C.
Smythe, E. A., Henersonville, N. C.
Springs, J. A., Hickory, N. C.
Stokun, M. G., New York, N. Y.
Tate, H. F., Union Mills, N. C.
Taylor, F. E., Macon, Ga.
Taylor, T., Savannah, Ga.
Vogel, T. R., Washington, D. C.
Williams, J. S., Washington, D. C.
Willis, C. E., LaGrange, Ga.
Wilson, J. W., 1st., Vila Rica, Ga.
Wood, T. C., Washington, D. C.
Woodward, W., Augusta, Ga.
Youmans, T. R., Dawson, Ga.

Report of the Treasurer

Clemson College, S. C., July 1, 1922

To The Finance Committee of the Board of Trustees. (Through the President).

Gentlemen:—

I have the honor of transmitting herewith my Annual Report of the Receipts and Disbursements of The Clemson Agricultural and Mechanical College of South Carolina for the fiscal year ending June 30, 1922.

Respectfully submitted,
S. W. Evans,
Secretary-Treasurer.

RESOURCES

DR.

Income—

1.	Privilege Fertilizer Inspection Tax	$126,118.07		
2.	Morrill and Nelson Fund (U. S.)	25,000.00		
3	Interest on Landscrip	5,754.00		
4	Interest on Clemson Bequest	3,512.36		
5	Tuition from Students	15,601.94		
6	Rents	9,714.27		
7	Matriculation and Laboratory Fees	4,892.83		
8	Interest and Miscellaneous Receipts	13.600.87	—$	204,194.34

From Other Sources—

State Loan	$112,842.11		
Reserve Fund	77,209.35	—$	190,051.46
Total		$	394.245.80

EXPENDITURES

CR.

Scholarships and Advertisements	$ 14,461.98		
Fertilizer Inspection and Analysis	22,929.29	—$	37,391.27

College Operating Expenses—		
Salaries	$154,809.18	
Coal, Labor, etc.	92,580.65—$	247,389.83
Equipment for Teaching	$ 13,104.36	
Permanent Additions and Improvements	24,857.47—$	37,961.83
Total	$	322,742.93
Reserve on hand June 30, 1922, necessary to carry college during season of small Fertilizer sales, July 1 to January 1.	$	71,502.87
Total	$	394,245.80

The following is a more detailed statement, showing the Expenditures and cost of the Public State Work, and each Department and Division of the College, under the items appropriated by the Board of Trustees:

PUBLIC STATE WORK DEPARTMENT

Scholarships and Advertisements—		
Scholarships and Advertisements	$ 14,461.98—$	14,461.98
Fertilizer Inspection and Analysis—		
Salaries	8,549.80	
Apparatus	176.93	
Chemicals	51.23	
Gasoline	253.28	
Recordbooks, Postage, Stationery, etc.	134.95	
Incidentals	41.85	
Labor—Janitor	300.00	
Extra Help in Laboratory and Office	420.00	
Emergency Supplies, Labor, etc.	259.12	
Traveling Expenses	111.16	
Salaries	3,999.96	
Labor—Janitor	600.00	
Tags and Printing	2,451.00	
Pay and Travel of 13 Inspectors	4,789.92	
Freight, Postage and Incidentals	292.99	
Legal Services	187.50	
Condensed Fertilizer Bulletin	309.60—$	22,929.29
Public State Work Expenditures	$	37,391.27

COLLEGE WORK

ACADEMIC DEPARTMENT

English Division—			
Repairs to Class Room Furniture		$ .90	
Stationery, etc.		13.10	—$ 14.00
History Division—			
Periodicals for Class Use		$ 10.80	—$ 10.80
Mathematics Division—			
Repairs to Furniture and Equipment		$ 18.55	—$ 18.55
Office and Unclassified Division—			
Janitor		$ 390.00	
Chalk, Erasers, Brooms, Stationery, etc.		145.93	—$ 535.93
Physics Division—			
Laboratory Supplies and Repairs		$ 149.51	
Apparatus for Mechanics and Heat		144.94	
Apparatus for Elec. and Magnetism		156.64	
Radiator for Basement		22.31	—$ 473.40
Salaries—			
Salaries—Professors and Assistants	$ 33,986.82		—$ 33,986.82
Department Expenditures			$ 35,039.50

AGRICULTURAL DEPARTMENT

Agricultural Education Division—			
Transportation of Students		$ 134.07	
Printing School Leaflets		188.80	
Lantern Slides and Plates		68.00	
Office Furniture		252.22	
Laboratory Equipment		166.16	—$ 809.25
Agronomy Division—			
Cement, Gasoline, Oil, etc.		$ 184.33	
Seed Score Cards, etc.		69.72	
Repairs and Parts for Machinery		29.86	
Materials for Class Use		88.99	
Cement, Gasoline, Oil, etc.		100.00	
Laboratory Equipment		197.52	
Office Equipment		46.51	
Machinery for Farm Laboratory		795.07	
Balances, etc., for Soil Laboratory		333.86	
Small Apparatus for Soil Laboratory		277.94	
Closets and Sinks		65.77	
Three Skylights		75.00	—$ 2,264.57

Animal Husbandry Division—		
1-3 Salary Herdsman	$ 416.65	
Labor	475.35	
Repair to Fences	198.30	
Expenses of Instructors to Judging Contests	29.67	
Feed for Live Stock Used for Teaching	2,663.73	
Live Stock Requisition Books	249.49	
Miscellaneous Equipment	290.73	
Labor for New Fencing	700.20	
Pasture Improvements	500.03	
Machine Shed	279.88	—$ 5,804.03
Botany and Bacteriology Division—		
Botanical Publications	$ 89.68	
Glassware and Laboratory Supplies	483.40	
Collecting Materials	185.60	
Repairs and Replacements	62.36	
Chart (Mimeograph)	177.01	
Hydrogen Detector	250.00	
Physiological Apparatus	195.24	—$ 1,443.29
Dairy Division—		
1-2 Salary Creamery Foreman	$ 719.75	
1-3 Salary Dairy Herd Foreman	14.98	
Labor—Dairy Herd for Teaching	450.07	
Feed for Dairy Cattle used for Teaching	499.51	
Freight and Repairs	59.31	
Glassware and Chemicals	124.91	
Operating and Upkeep Expenses	142.56	
Upkeep of Fences	198.99	
Repairs to Refrigerating Plant	99.14	
Cork Floor—Dairy Building	50.00	
Small Laboratory Equipment	75.96	
Hand Butter Filler	17.00	
Moisture Test Scales	31.50	
Cheese Making Equipment	161.80	
Additional Calf Barn Equipment	170.30	
Clipping Machine	90.55	
Gurnsey Bull	500.00	
Cement Manger—West wing	197.80	
Four Temporary Bull Pens	298.29	
Cement Walk—Calf Barn	84.54	
Doors in Barn	47.00	
New Door for Three Sides	36.32	
Litter Truck—Calf Barn	96.48	
Completion Cooling Room	23.57	
Removing Two Partitions	38.80	
Extra Equipment for Fed. Board Work	8.82	—$ 4,237.95

Entomology and Zoology Division—		
Class and Laboratory Materials	$ 123.00	
Labor	33.43	
Repairs to Instruments	75.80	
Spraying and Dusting Apparatus	145.32	
Microscope for Laboratory	150.00—$	527.55
Geology and Mineralogy Division—		
Supplies, etc.	$ 49.97	
Labor	29.00	
Lantern Slides	30.00—$	108.97
Horticulture Division—		
1-2 Salary Greenhouse Foreman	$ 605.00	
1_2 Salary Hort. Foreman	500.00	
Labor	884.94	
Fertilizer	100.00	
Seed, Plants, etc.	198.82	
Greenhouse Supplies and Repairs	97.69	
Coal for Greenhouse	94.25	
Spray Apparatus and Materials	100.00	
Feed for Two Mules	249.42	
Tools for Class Use	31.42	
Rubber Hose	21.80	
Filing Cards and Cabinet	99.72—$	2.983.06
Office and Unclassified Division—		
Janitors for Agri'l Hall and Dairy and Supplies	$ 1,047.05	
Gasoline	201.97	
Attendance on Conventions, etc.	100.00	
Stationery, Postage, etc for Department	514.38	
Upkeep of Building	128.31	
Mimeograph Stand	22.50	
Shades	60.00—$	2,074.21
Veterinary Science Division—		
Janitor and Extra Labor	$ 522.00	
Veterinary Journals	4.00	
Repairs to Gates, Fences, etc.	74.70	
Stoves for Office and Class Rooms	56.84	
Desk	67.50—$	725.04
Salaries—		
Salaries—Professors and Assistants	$ 33,453.72—$	33,453.72
Department Expenditures	$	54,431.64

CHEMICAL DEPARTMENT

Chemistry Division —			
Chemical Apparatus	$ 500.00		
Chemicals and Supplies	500.00		
Gasoline	255.04		
Books, Journals and Binding	199.38		
Repairs to Apparatus	190.90		
Incidentals	148.85		
Labor—Janitor	300.00		
Repairs to Plumbing	17.38		
Student Breakage	250.00		
Chemical Apparatus	330.40	—$	2,691.95
Salaries—			
Salaries—Professors and Assistants	$ 8,999.92	—$	8,999.92
Department Expenditures		$	11,691.87

ENGINEERING DEPARTMENT

Civil Engineering Division—			
Class Materials, etc	$ 63.02		
Repairs and Replacements, etc.	74.41		
Rattler	745.00		
Briquette Machine	260.00		
Seats for Class Room	35.00		
Five Hand Levels	27.80	—$	1.205.23
Drawing Division—			
Materials as Ink, Paper, etc	$ 30.00		
Repairs and Renewals to Apparatus	69.99		
Expenses—Architect Contest	25.00		
Subscriptions to Magazines	47.20		
Student Help in Making Blue Prints	40.07		
Reference Books	147.79		
Locks	40.00		
Lantern Slides	25.00	—$	425.05
Electrical Engineering Division—			
Junior Laboratory Supplies	$ 49.72		
Senior Laboratory Supplies	59.74		
Repairs and Renewals	104.80		
Class and Laboratory Notes for Students	29.98		
Student's assistants	123.85		
Periodicals and Reference Books	40.00		
Freight on Machinery	25.72		
Machine Bases and Rheostats	149.58		
Fuse Panel for Dynamo Laboratory	147.75		
Electrical Instruments	424.80		

Motor Generator Set		250.00	
Circuit Breakers		150.90—$	1,556.84
Forge and Foundry Division—			
Labor	$	1,325.00	
Iron and Steel for Forge Shop		300.00	
Repairs and Replacem's of Mach. & Appr.		107.29	
Supplies as Plumbago, Flour, etc.		60.56	
Coal for Forge Shop		390.00	
Pig Iron and Brass for Foundry		150.00	
Mounding Sand		57.00	
Coke for Foundry		65.00	
Rolled Steel Flasks		149.77	
Moulding Tools		31.83	
Shearing Machine		372.59—$	3,009.04
Machine Shop Division—			
Labor-Machinist	$	689.40	
Repairs and Replacement of Tools, etc.,		188.82	
Shop Material		337.41	
Vertical Milling Attachment		125.00	
Tool Room Changes		242.00	
Oil Furnace and Blower		198.18	
Five Engine Lathe Chucks		235.98	
Taper Attachment		115.00	
Internal Grinder		100.00—$	2,231.79
Mechanical Engineering Division—			
Laboratories Supplies	$	80.00	
Gasoline		14.25	
Data Blanks		40.00	
Repairs and Replacements		38.67	
Rheostat for Cen. Pump Motor.		30.00	
Centrif. Fan and Motor Unit		375.00	
Drying Oven		50.00	
Water Meter Prover		150.00	
Small Scales		20.00—$	797.92
Office and Unclassified Division—			
Labor—Janitors	$	600.00	
Office and Janitor Supplies		199.31	
Incidentals		9.83—$	809.14
Wood Shop Division—			
Labor	$	398.50	
Supplies—Lumber, Hardware, Paint, etc.		491.29	
Repairs and Replacement of Tools, etc....		290.42—$	1,180.21
Salaries—			
Salaries—Professors and Assistants	$	33,566.63—$	33,566.63
Department Expenditures			$ 44,781.85

MILITARY DEPARTMENT

Office and Unclassified Division—			
Postage, Stationery, Record books, etc.		$ 407.90	
Military Supplies		199.88	
Upkeep of Band		98.16	
Cadet Officers Sabres		195.05	
Losses of Federal Property		12.75	
Cadet Officers Insignia		219.25	
1920-1921 Unpaid bills		22.75	
Band Instruments		97.51	
Officers Equipment		15.78—$	1,269.03
Salaries—			
Salaries—Commandant and Assistants	$ 5,272.30—$		5,272.30
Department Expenditures		$	6,541.33

TEXTILE DEPARTMENT

Carding and Spinning Division—			
Cotton for Class Use	$ 339.95		
Repairs and Supplies	168.16		
Material for Cotton Grading	47.96		
Safety First Outfit	25.00—$		581.07
Dyeing Division—			
Chemicals and Dye Stuffs	$ 198.94		
Glassware and Material	166.47		
Miscellaneous Small Apparatus	143.53—$		508.94
Office and Unclassified Division—			
Janitor and Engineer	$ 833.80		
Gasoline	76.84		
Stationery and Postage	38.24		
Student Labor	74.60		
Mill Boy Helper	300.00		
Textile Periodicals	83.55		
Freight on Donated Machinery	9.94—$		1,416.97
Weaving Division—			
Warp and Filling Yarn	$ 550.86		
Loom Supplies and Repairs	116.32		
Knitting Yarn and Samples	42.86		
Card Cutting Machine	92.07		
Chairs and Table	62.75		
Tools, Pulley, etc.	47.81—$		912.67
Salaries—			
Salaries—Professors and Assistants	$ 10,349.90—$		10,349.90
Department Expenditures		$	13,769.55

PUBLIC UTILITIES DEPARTMENT

Campus Division—		
One-half Salary of Forman	$ 605.00	
Labor	1,395.91	
Fertilizer and Manure	348.53	
Seed, Plants and Trees	199.70	
Feed and Upkeep of Two Mules	399.40	
Tools, Machinery and Repairs	149.55	
Development of Expt. Station Road	418.87	
Development Area Opposite Barracks 2	364.81	
Cement Sidewalks, etc.	993.16—$	4,874.93
Construction and Repair Division—		
Post Office Equipment	$ 4,499.53	
Office Supplies, Postage, etc	49.06	
Repairs and Renewals of Apparatus	15.29	
Tools and Implements	25.15	
Gasoline for Truck	73.37	
Misc. Improvem's and Reprs. Pub Bldgs.	1,164.14	
Repair to Public Buildings	4,496.73	
Repairs to Residences, 1921-22	4,876.67	
Cement Floor in Kitchen Area—Bar'ks 1	58.87	
Cement Floor to Kitchen—Barracks 1	360.19	
Inside Steps to Barracks 1	217,26	
Fumigating Room—Cadet Hospital	46.51	
Lattice Cadet Hospital	23.64	
Bath and Toilet—3rd Floor Hosp.	128.59	
10 Grates Fronts and Hearths—Hospital	59.30	
Miscellaneous Items—Cadet Hospital	126.90	
Adapting School House for Residence	489.55	
Lavatory and Toilet—Y. M. C. A.	68.77	
Basement Room, Mail Building	881.50	
Conversion E. Annex to 4 Appt. House	2,014.47	
Garage for Truck	70.45	
Ford Truck for C. and R. Div.	615.38	
Shute at River for Garbage	91.47	
Grate in Residence—Hunter	6.65	
Extension Rear Porch—Crandalls	65.18	
Enlarging Room—1st Floor—Marshall	237.90	
Toilet Room—2nd Floor Marshall	182.89	
Glass Doors—Marshall	29.00	
Salary—Supt. C. and R.	1,800.00	
Adding Story and Changes—Eng. Dept.	4,077.32—$	26,851.73
Farm Division —		
Ditching in Clemson Bottoms	$ 1,557.38	
Dyke—Lewis Bottoms	201.48	
Repairs to Barn	78.80—$	1,837.66

Heat, Light and Water Division—			
Power Station Equipment	$ 5,502.84		
Labor	6,807.05		
Materials, Repairs and Extensions	1,905.04		
Coal	14,773.68		
Repairs to Generator, Standpipe, etc	727.22		
Portable Chemical Fire Engine	216.86		
Fire Hose and Apparatus	250.00		
Light, Water and Sewer to Herdsman's House	192.49	$	30,375.18
Roads, Sidewalks and Hauling Division—			
Labor, Truck Drivers, etc.	$ 1,744.38		
Hire of Teams from Farm	160.50		
Gasoline, Oil, Tires and Repairs	797.23		
Road Scrape, etc.	520.00		
Salary of Supt.	1,500.00	$	4,722.11
Watchman and Police Division—			
Salary of Watchman and Police	$ 807.50		
Supplies	26.66	$	834.16
Department Expenditures		$	69,495.77

Miscellaneous Department

Hospital Division—			
Hospital Equipment	$ 677.32	$	677.32
Library Division—			
Salaries	$ 1,650.00		
Supplies, Cards, Stationery, etc.	15.84		
Magazines	273.25		
Membership Dues	27.50		
Books	1,000.05	$	2,966.64
Miscellaneous Items Division—			
Expenses of Trustees and Board of Visitors	$ 897.02		
Insurance Sinking Fund	5,335.51		
Contingent and Incidental Expenses	2,478.16		
Ministers	2,403.85		
Salary Y. M. C. A. Sect'y	500.00		
College Catalogue	673.50		
Annual Report to Legislature	2.30		
Commencement Expenses	376.43		
Trustees Medals	42.20		
Oil Painting—Col. R. E. Bowen	303.40		
Membership in National Associations	91.00		
Examination Booklets	279.11		
Pension—J. B. Stevens	300.00		
Scavenger Service	480.00		

Boys Club Scholarship	600.00	
Live Stock Exhibits	279.34	
State Fair Exhibits	345.68	
Travel and Entertainment of Legislative Committees	443.25	
Salary—Magistrate	99.96	
Contingent Salaries	591.20	
Contribution to Clemson-Calhoun High School	2,750.00—$	19,271.91
President's Office Division—		
Salaries—Pres. Registrar and Assits.	$ 15,892.10	
Students Cards, Forms, etc.	695.35	
Stamps, Stationery, Supplies, etc.	989.56	
Traveling Fund	646.40	
Janitor and Janitor's Supplies	600.00—$	18,823.41
Telephone System—		
Upkeep of System	$ 148.68	
Labor—Operation and Repairs	738.36—$	887.04
Treasurer's Office Division—		
Salaries	$ 4,746.63	
Student Cards, Books, etc.	580.49	
Recordbooks, Postage, Stamps, etc.	774.30	
Emergency Assistance	420.00	
Premium on Bonds	75.00	
Voucher File	66.35	
Auditing Assistance	311.06—$	6,973.83
Department Expenditures	$	49,600.15

SUMMARY

Expenditures by Departments

Public State Work	$ 37,391.27	
Academic Department	35,039.50	
Agricultural Department	54,431.64	
Chemical Department	11,691.87	
Engineering Department	44,781.85	
Military Department	6,541.33	
Textile Department	13,769.55	
Public Utilities Department	69,495.77	
Miscellaneous Department	49,600.15—$	322,742.93

HATCH AND ADAMS FUND—FEDERAL FUNDS

(South Carolina Agricultural Experiment Station.)

Receipts—	
Adams Fund	$ 15,000.00

Hatch Fund	15,000.00
Sales	4,182.29
	$ 34,182.29

Expenditures—

Salaries	$ 18,943.14
Labor	5,164.10
Publications	451.03
Postage and Stationery	580.54
Freight and Express	219.39
Heat, Light, Water and Power	407.44
Chemicals and Laboratory Supplies	391.40
Seed, Plants and Sundry Supplies	1,046.97
Fertilizers	863.49
Feeding Stuffs	964.66
Library	754.70
Tools, Machinery and Appliances	437.33
Furniture and Fixtures	174.01
Scientific Apparatus and Specimens	1,026.62
Live Stock	12.00
Traveling Expenses	291.42
Contingent Expenses	5.00
Buildings and Land	609.69
	$ 32.342.93
Overdraft from previous year	421.85
	$ 32,764.78
Balance on hand June 30th, 1922	$ 1,417.51
	$ 34,182.29

SMITH-LEVER EXTENSION WORK

State Federal and County Funds.)

Receipts—

Federal Appropriation		$147,902.57
State Appropriation	$ 94,147.00	
Paid by County Officials	43,755.57	—$137,902.57
		$285,805.14

Note: $19,852.56 additional County Funds entered on the Treasurer's books, but not included in this report.

Expenditures—

Salaries	$218,247.00
Labor	85.15
Printing and Distribution—Publications	6,103.89
Stationery and Small Printing	838.17
Postage, Telegraph, Freight and Express	3,043.07
Heat, Light, Water and Power	620.12
Supplies	1,754.14
Library	111.39
Tools, Machinery and Appliances	22.03
Furniture and Fixtures	3,680.49
Scientific Apparatus and Specimens	113.35
Traveling Expenses	50,092.32
Contingent Expenses	1,094.02
	$285,805.14

REVOLVING ACCOUNTS

Receipts—

Balance on hand July 1st, 1921	$114,083.78
Receipts for Fiscal Year	281,334.13
	$395,417.91

Expenditures—

Animal Husbandry	$ 5,661.79
Creamery	19,856.29
Dairy	10,956.09
Farm	12,851.31
Poultry	16.54
Veterinary Hospital	2,237.48
Coast Experiment Station	495.60
Pee Dee Experiment Station	7,491.42
Athletic Association	7,810.71
Cadet Exchange	18,265.13
Hotel	17,472.79
Cooperative Cotton Testing	1,060.19
Education of Disabled Soldiers	12,938.35
Barracks Fire Loss	5,166.61
Hog Cholera Serum Work	31,623.12
Insurance	11,701.17
Lost Government Property (Transferred to College.)	20.02
Manufacture of State Flags	85.72
Summer School	8,985.17
Coal Sales	2,881.10
Breakage	528.80
Miscellaneous ($204.99 Transferred to College.)	404.17

Magistrate Fines (Transferred to College.)	302.05
Nursery Tags	916.63
Receiving Account ($13,073.81 Transferred to College)	13,198.81
Rents ($9,714.27 Transferred to College.)	9,852.27
Smith-Hughes Work	24,564.11
Smith-Lever Interest Account	1,690.21
Student Loan Funds and Medals	450.00
Wood Shop	1,052.61
Student Fees ($4,892.83 Transferred to College.)	4,906.43
*Building Sinking Fund	51,940.93
Reserve Fund (Transferred to College)	77,209.35
	$364,592.97
Balance on hand June 30th, 1922	30,824.94
	$395,417.91

*Note: $44,861.93 transferred from Building Sinking Fund to cover deficit on the following accounts:

Animal Husbandry	$	12,502.29
Creamery		8,265.06
Dairy		10,294.48
Farm		11,511.04
Poultry		358.48
Veterinary Hospital		487.27
	$	43,418.62
Barracks Fire Loss		1,443.31
	$	44,861.93

CADET FUND

Receipts—

Balance on hand July 1st, 1921			$ 7,848.49
Miscellaneous	$ 296.72		
Subsistence	153,769.62		
Room, Heat, Light and Water	16,070.70		
Laundry	14,650.58		
Hospital	12,110.29		
Uniforms	29,304.37		
Incidentals	6,999.54		
Activity Fee	7,732.14		
Breakage	2,875.87		
Diplomas	477.85	—$244,287.68	
		$252,136.17	

Expenditures—		
Subsistence		$148,030.17
Room, Heat, Light and Water	16,100.48	
Laundry	12,759.22	
Hospital	10,100.60	
Uniforms	29,387.58	
Incidentals	6,135.60	
Activity Fees	7,732.14	
Breakage	2,875.87	
Diplomas	471.95	
Transferred to Laundry Building. (From Laundry Receipts)	1,891.36	
Miscellaneous	3,197.19	—$238,682.16
Balance on hand June 30, 1922		13,454.01
		$252,136.17

STUDENT DEPOSITS

Receipts—		
Balance on hand July 1st, 1921		$ 392.10
Deposits		65,976.35
		$ 66,368.45
Overdraft June 30th, 1922		$ 73.22
		$ 66,441.67
Expenditures—		
Checks Paid		$ 66,441.67
		$ 66,441.67

STATE APPROPRIATIONS
(Reported by College Fiscal Year.)

Appropriations— (Paid through Comptroller General's Office)		
Agricultural Research Work		$ 49,083.73
Crop Pest and Disease Work	9,832.97	
Live Stock Sanitary Work	51,430.06	
Tick Eradication	15,679.68	
Slaughtering of Diseased Live Stock	2,118.42	
		$128,144.86
Expenditures— (Paid through Comptroller General's Office.)		
Agricultural Research Work		$ 49,083.73
Crop Pest and Disease Work	9,832.97	
Live Stock Sanitary Work	51,430.06	
Tick Eradication	15,679.68	
Slaughtering of Diseased Live Stock	2,118.42	
		$128,144.86

RECAPITULATION

Receipts—		
Cash on hand July 1st, 1921—		
Revolving Accounts		$114,083.78
Cadet Funds		7,848.49
Cadet Deposits		392.10
		$122,324.37
Less Overdraft on S. C. Expt. Station Account		421.85
		$121,902.52
College Account (Including $77,209.35 from Reserve Fund and $112,842.11 State Loan)		394,245.80
Hatch and Adams Fund (U. S.)		34,182.29
Smith-Lever Extension Work ($43,755.57 County Funds included, but paid by County Officials)		285,805.14
Revolving Funds		281,334.13
Cadet Funds		244,287.68
Cadet Deposits		65,976.35
State Appropriations paid through Comptroller General's Office—		
Agricultural Research Work	$ 49,083.73	
Crop Pest and Disease Work	9,832.97	
Tick Eradication	15,679.68	
Live Stock Sanitary Work	51,430.06	
Slaughtering of Diseased Live Stock	2,118.42	—$128,144.86
		$1,555,878.77
Expenditures—		
College Account		$322,742.93
Hatch and Adams Funds (U. S.)		32,342.93
Smith Lever Extension Work (Including $43,755.57 County Funds)		285,805.14
Revolving Funds		364,592.97
Cadet Funds		238,682.16
Cadet Checks Paid		66,441.67
State Appropriations paid through Comptroller General's Office—		
Agricultural Research Work	$ 49,083.73	
Crop Pest and Disease Work	9,832.97	
Tick Eradication	15,679.68	
Live Stock Sanitary Work	51,430.06	
Slaughtering of Diseased Live Stock	2,118.42	—$128,144.86
		$1,438,752.66
Cash on hand June 30, 1922		117,126.11
		$1,555,878.77

STATEMENT OF CASH IN BANKS

(Close of Business, June 30, 1922.)

National Bank of Newberry (Smith-Lever.) Newberry, S. C.	10,000.00	
Union Savings Bank (Smith-Lever) Bennettsville, S. C.	9,980.00	
Farmers and Merchants Bank Anderson, S. C.	17,500.00	
National Bank of Sumter Sumter, S. C.	9,000.00	
Bank of Pendleton (Time Dep.) Pendleton, S. C.	5,000.00	
Farmers Bank of Abbeville County Abbeville, S. C.	7,500.00	
Commercial Bank Greenwood, S. C.	6,000.00	
National Bank of Abbeville Abbeville, S. C.	6,000.00	
The Fort Hill Bank Clemson College, S. C.	2,000.00	
Peoples Savings Bank Abbeville, S. C.	6,000.00	
Bank of Greenwood Greenwood, S. C.	6,000.00	
Union Savings Bank Bennettsville, S. C.	15,000.00	
Palmetto National Bank Columbia, S. C.	10,000.00	$109,980.00

Bank of Pendleton (Checking Account)			
Balance General Acct.	$ 58,441.10		
Less:			
Smith-Lever Div. overdraft	15,340.30		
Net Balance Bank Certificate		43,100.80	
Less: Checks Outstanding:			
College Division	31,241.77		
Smith-Lever Division	4,639.70	$ 35,881.47	$ 7,219.33
Total Cash in Banks			$117,199.33
Less Overdraft Deposit Ledgers			73.22
			$117,126.11

Report of the Auditor

LETTER OF TRANSMISSAL

Clemson College, Dec. 15, 1922.

Honorable Board of Trustees of the Clemson Agricultural College of S. C.

Gentlemen:

I beg to transmit to you herewith an audit of the books, vouchers, and accounts of the Clemson Agricultural College for the fiscal year ending June 30th, 1922, as indicated by the body of this report. Mr. L. A. Searson acted as a representative of this department in actually making the audit.

Yours very truly,

W. W. BRADLEY,
State Bank Examiner.

GENERAL REPORT

(Office of Mr. Sam'l W. Evans, Treasurer)

Mr. W. W. Bradley, State Bank Examiner,

Columbia, S. C.

Dear Sir:

General Comments—

It seems appropriate that I should present this report with a few comments regarding the apparent qualifications of the College Treasurer and his staff of assistants. During the progress of this audit, I have noted with especial interest the efficient methods followed in the general conduct of this office. Although the services of three or more assistants are required to carry out the general office work, in this department, the Treasurer does not in any way shift the responsibility, but is, at all times, fully prepared to give a personal account of every transaction.

In several previous audits, the writer has had occasion to make favorable reports concerning this officer's work—and it is a pleasure to note the same degree of efficiency, at the present time.

It should also be a matter of interest to the Trustees of the college, and to other parties concerned, to know that closest co-operation exists between the offices of President and Treasurer. The President of the College manifests his deep interest in the accounting program, and it is quite evident that he is, at all times, in intimate touch with matters pertaining to the financial status of the instiution.

Although my engagement does not include any examination of the physical properties of the college, I would like to call attention to the very interesting records which are kept in this connection. A classified inventory of all property owned by Clemson College is always available, and it is possible to ascertain, to the most minute detail, every article of value in each department, or division, throughout the plant. The records indicate that the present holdings of Clemson College represent, in value, upward of $2,000,000.00—and the inventories on file present an elaborate classification, which is covered by the following condensed statement:

STATEMENT OF COLLEGE INVENTORY

(June 30, 1921)

Office Equipment	$	46,378.26
Household Equipment		56,298.44
Education and Recreation		177,954.68
Library Equipment		44,807.80
Vehicles		10,700.49
Live Stock		51,876.77
Medical and Surgical Equipment		1,424.84
Military Equipment		2,952.97
General Plant		181,079.80
Buildings		1,107,565.00
Real Estate		354,479.00
		$2,035,518.05
Supplies		86,450.77
Total		$2,121,968.82

I am sure that much more could be conservatively added to these comments, with respect to the financial statistics of the institution, as well as opinions based upon my observations in other particulars. However, it is not essential to include in this report such matters as are so ably dealt with in the annual reports submitted by the President of the College.

I would like to close these remarks with a word of appreciation of the many courtesies extended to me by the President, the Treasurer and others while I was engaged on this examination. The assistance rendered by the Treasurer and his staff greatly facilitated my work and aided me considerably in forming my conclusions.

Books and Records—

It is my opinion that the needs of the office are adequately provided for, from an accounting standpoint. The bookkeeping is admirable

in every respect. Therefore, I do not deem it necessary to suggest any changes in the accounting methods. (I have made some verbal suggestions to the Treasurer as to minor details.)

So far as I have been able to ascertain, adequate filing facilities have never been provided for the Treasurer's office—and it has been necessary to make the most of the means at hand. My investigation, in this respect, leads me to conclude that, in view of the great volume of work and the mass of records accumulating annually, the business of the department has outgrown available filing space. I would, therefore, respectfully suggest that the President investigate this matter and that he take the steps necessary, in his judgement, to secure such filing facilities as the activities of the office demand. Careful and sysmetatic preservation of the permanent and valuable records of this department is a matter which the College authorities can scarcely afford to neglect. The records are filed with remarkable accuracy under existing conditions, but one unfamiliar with the work could not readily secure desired information without assistance. I would recommend that competent help be secured for the purpose of re-arranging the files, as the task would, doubtless, involve more work than could be handled by the present office force, in addition to routine duties. (It is the writer's opinion that the office, at present, is undermanned—and I believe that it would be a wise policy to employ another high class assistant, in order that the Treasurer may be relieved of much clerical work which he now performs—thus leaving his mind alert for the great responsibilities and administrative duties which devolve upon him, as an executive officer. A utility man to act as audit and filing clerk, in my view, would be a valuable asset to the department.

Especial attention is directed to the College budget, under the standard College classification. The operating cost can be easily determined from any desired angle, under the system in use. It is noted, however, that, while the classification of expenditures above referred to could not be very well improved on, it is necessary for the Treasurer to work out a revised classification (for the calendar year) to meet the requirements of the State Budget Commission—because the college fiscal year closes on June 30th instead of on December 31st. This, naturally, requires much additional work and adds a hardship to the Treasurer and his assistants.

Individual accounts are kept with the cadets from the date of matriculation, and it is well to note that this systematic proceedure—when combined with the private banking business known as the "Cadet Deposit" division—means the posting of approximately 2,000 subsidary accounts, under control of general accounts on the College ledger. These records are kept principally for convenience of the student body.

I find that all vouchers are itemized and properly approved by the President and by the department and division heads before checks are issued in payment of salaries, accounts, etc. All purchases are based upon requisitions, approved by the President, and invoices are, apparently, carefully audited before they are paid. The vouchers are filed systematically and are easily audited.

Special References—

In view of the decrease in the sale of fertilizer, the college has lost considerable revenue on account of the fertilizer inspection tax, as compared with former receipts from this source. While the requirements of the college, under continued growth, have naturally increased from year to year, statistics show that the fertilizer tax, (the principal source of revenue,) was less in the year ended June 30, 1922, than in any previous year since the college opened. The income from this source, during the history of the tax, has ranged from something over $313,000.00 to about $126,000.00. For the year ending June 30, 1922, the amount was only $126,118.07. It is noted, in this connection, that the college has kept continuously in operation, and on the up-grade of progress, for over thirty years, without the aid of State appropriations—and that the present property valuation (practically free from incumbrance) is over $2,000.000.00. During the past two or three years, however, moderate loans have been necessary to supplement the income, because of the decrease in fertilizer tax revenues.

The reserve fund set aside as of date of July 1, 1921, was transferred, and necessarily absorbed, during the year ended June 30, 1922. In view of the fact that funds on hand June 30, 1922 were needed for current expenses, immediately payable, no reserve was set aside with the past fiscal year.

The "Building Sinking Fund," (representing saving on the budget,) which was reserved for the purpose of erecting a new hospital for the cadets, was transferred (by order of the Board of Trustees) during the year, for the purpose of covering deficits in the following re-investment accounts, to wit:

Animal Husbandry,
Creamery,
Dairy,
Farm,
Poultry,
Veterinary Hospital,
Barracks Fire Loss
and New Laundry.

It appears, therefore, that the intention of the Board of Trustees to build this hospital plant has been defeated, unless some further provision can be made to carry out the original plan.

COLLEGE FUND

Condensed Statement—

A condensed statement of receipts and disbursements, on account of the general College fund, will be found on page 6 of this report. This statement, which is self-explanatory, is supported by schedules showing the distribution of expenditures to the various departments, divisions and objects.

College Expenditures—

A classified statement of expenditures, for general college purposes, is submitted on pages 7-16. The statement is sub divided into departmental expenditures, and the objects under each division are also given. The appropriations are shown, by comparison, and a summary appears on page 17.

CONDENSED STATEMENT RECEIPTS AND DISBURSEMENTS

(College Account, Year ended June 30, 1922)

RECEIPTS

Revenues from Various Sources—		
Privilege Fertilizer Inspection Tax		$126,118.07
Morrill and Nelson Funds (U. S.)		25,000.00
Interest on Lanscrip		5,754.00
Interest Clemson Bequest		3,512.36
Interest on Deposits and other Misc. Receipts		13,600.87
Tuition from Students		15,601.94
Matriculation and Laboratory Fees		4,892.83
Rentals	9,714.27—	$204,194.34
Reserve Fund		71,209.35
State Loan		
Nov. 15, 1921	20,000.00	
Nov. 15, 1921	92,842.11—	112,842.11
Total		$394,245.80

EXPENDITURES

Public State Work—			
Scholarships and Advertisements		$ 14,461.98	
Fertilizer Inspection and Analysis:			
Inspection	$10,298.32		
Analysis	12,630.97—	22,929.29—	37,391.27
College Operating Expenses—			
Salaries		$154,809.18	
Fuel, Labor and Other Expenses		92,580.65—	247,389.83
			$284,781.10
Buildings and Equipment—			37,961.83
			$322,742.93
Cash Balance to account for June 30, 1922			71,502.87
Total			$394,245.80

GENERAL STATEMENT OF COLLEGE FUND

Departmental and Divisional Expenditures vs. Appropriations
(Clemson College Standard Classification—year ended June 30, 1922)

PUBLIC STATE WORK

A—Scholarships and Advertisements		$ 14,461.98	$ 20,000.00
B—Fertilizer Inspection and Analysis—			
Salaries	$8 549.80		
Apparatus	176.93		
Chemicals	51.23		
Gasoline	253.28		
Record Books, Stationery, etc.	134.95		
Incidentals	41.85		
Labor—Janitor	300.00		
Extra Help Laboratory and Office	420.00		
Emergency Supplies, Labor, etc.	259.12		
Traveling Expenses	111.16—	10,298.32—	11,570.00
Salaries	3,999.96		
Labor—Janitor	600.00		
Tags and Printing	2,451.00		
Inspectors—Pay and Travel	4,789.92		
Frt., Postage and Incidentals	292.99		
Legal Services	187.50		
Condensed Fertilizer Bulletins	309.60—	12,630.97—	28,700.00
		$37,391.27	$60,270.00
Excess Appropriations Over Expenditures		22,878.73	
		$60,270.00	$60,270.00

COLLEGE WORK

A—Academic Department—			
1. English Division—			
Repairs to Class Room Furniture	$ .90		
Stationery, etc.	13.10—$	14.00	$ 35.00
2. **History Division—**			
Periodicals for Clas use		10.80	125.00
3. Mathematics Division—			
Repairs to Furniture & Equipment		18.55	25.00
4. Office and Unclassified—			
Janitor	390.00		
Chalk, Erasers, Stationery, etc.	145.93—	535.93	600.00

5. Physics Division—			
Laboratory Supplies & Repairs	149.51		
Apparatus for Mechanics & Heat	144.94		
Apparatus for Electricians, etc.	156.64		
Radiator for Basement	22.31—	473.40	600.00
6. Salaries—			
Professors and Assistants		33,986.82	35,550.00
		$35,039.50	
Excess Appropriations over Expenditures		1,895.50	
		$36,935.00	$36,935.00

B—Agricultural Department—

1. Agricultural Education Division—				
Transportation of Students	$134.07			
Printing School Leaflets	188.80			
Lantern Slides and Plates	68.00			
Office Furniture	252.22			
Laboratory Equipment	166.16—	$ 809.25	$	1,050.00
2. Agronomy Division—				
Cement, Gasoline, Oil, etc.	184.33			
Seed Score Cards, etc.	69.72			
Repairs & Parts for Machinery	29.86			
Material for Class use	88.99			
Cement, Gasoline, Oil, etc.	100.00			
Laboratory Equipment	197.52			
Office Equipment	46.51			
Machinery for Farm Laboratory	795.07			
Balances, etc., for Soil Laboratory	333.86			
Small Apparatus for Soil Laby.	277.94			
Closets and Sinks	65.77			
Three Skylights	75.00—	$ 2,264.57	$	2,543.00
3. Animal Husbandry Division—				
Salary Herdsman (1-3)	$416.65			
Labor	475.35			
Repairs to Fences	198.30			
Expense of Instructors, Contests	29.67			
Requisition Books—(Live Stock)	249.49			
Feed for Live Stock	2,663.73			
Pasture Improvements	500.03			
Machine Shed	279.88			
Miscellaneous Equipment	290.73			
Labor for New Fencing	700.20—	$ 5,804.03	$	6,015.00

4. Botany and Bacteriology Division—				
Botanical Publications	89.68			
Glassware and Lab'y. Supplies	483.40			
Collecting Materials	185.60			
Repairs and Replacements	62.36			
Chart (Mimeograph)	177.01			
Hydrogen Detector	250.00			
Physiological Apparatus	195.24	—$	1,443.29	$ 1,650.00
5. Dairy Division—				
Salary Creamery Foreman (1/2)	719.75			
Salary Dairy Herd Foreman (1-3)	14.98			
Labor—Dairy Herd for Teaching	450.07			
Feed for Dairy Cattle—Teaching	499.51			
Freight and Repairs	59.31			
Glassware and Chemicals	124.91			
Operating and Upkeep Expenses	142.56			
Upkeep of Fences	198.99			
Repairs to Refrigerating Plant	99.14			
Cork Floor—Dairy Building	50.00			
Small Laboratory Equipment	75.96			
Hand Butter Filler	17.00			
Moisture Test Scales	31.50			
Cheese Making Equipment	161.80			
Additional Calf Barn Equipment	170.30			
Clipping Machine	90.55			
Guernsey Bull	500.00			
Cement Manger—West wing	197.80			
Four Temporary Bull Pens	298.29			
Cement Walk—Calf Barn	84.54			
Doors in Barn	47.00			
New Doors for Three Sides	36.32			
Litter Truck—Calf Barn	96.48			
Completion of Cooling Room	23.57			
Removing two Partitions	38.80			
Equipment for Federal Board Work	8.82	—$	4,237.95	$ 5,107.00
6. Entomology and Zoology Division—				
Class and Laboratory Material	123.00			
Labor	33.43			
Repairs to Instruments	75.80			
Spraying and Dusting Apparatus	145.32			
Microscope for Laboratory	150.00	—$	527.55	$ 665.00
7. Geology and Mineralogy Division—				
Supplies, etc.	49.97			
Labor	29.00			
Lantern Slides	30.00	—$	108.97	$ 115.00

8. Horticulture Division—				
Salary Greenhouse Foreman 1/2	605.00			
Salary Horticulture Foreman (1/2) ..	500.00			
Labor	884.94			
Fertilizer	100.00			
Seed, Plants, etc.	198.82			
Greenhouse Supplies & Repairs	97.69			
Coal for Greenhouse	94.25			
Spray Apparatus and Materials	100.00			
Feed for Two Mules	249.42			
Rubber Hose	21.80			
Filing Cards and Cabinet	99.72			
Tools for Class Use	31.42	—$	2,983.06	$ 4,485.00
9. Office and Unclassified Division—				
Janitors, Agri. Hall and Dairy	1,047.05			
Gasoline	201.97			
Attendance Conventions, etc.	100.00			
Stationery, Postage, etc.	514.38			
Upkeep of Building	128.31			
Mineograph Stand	22.50			
Shades	60.00	—$	2,074.21	$ 2,210.00
10. Veterinary Science Division—				
Janitor and Extra Labor	522.00			
Veterinary Journals	4.00			
Repairs to Gates, Fences, etc.	74.70			
Stoves for Office and Class Rooms	56.84			
Desk	67.50	—$	725.04	$ 860.00
11. Salaries—Professors and Assistants			33,453.72	37,263.34
		$	54,431.64	
Excess of Appropriations over Expenditures		$	7,531.70	
		$	61,963.34	$ 61,963.34

C—Chemical Department—

1. Chemistry Division—				
Chemical Apparatus	500.00			
Chemicals and Supplies	500.00			
Gasoline	255.04			
Books, Journals, Binding	199.38			
Repairs to Apparatus	190.90			
Incidentals	148.85			
Labor—Janitor	300.00			
Repairs to Plumbing	17.38			
Student Breakage	250.00			
Chemical Apparatus	330.40	—$	2,691.95	$ 2,975.00

2. Salaries—Professors and Assistants		8,999.92	9,000.00
		$ 11,691.87	
Excess Appropriations over Expenditures		283.13	
		$ 11,975.00	$ 11,975.00

D—Engineering Department—

1. Civil Engineering Division—				
Class Materials	$ 63.02			
Repairs and Replacement, etc.	74.41			
Rattler	745.00			
Briquette Machine	260.00			
Seats for Class Room	35.00			
Five Hand Levels	27.80	—$	1,205.23	$ 1,345.00
2. Drawing Division—				
Materials, Ink, Paper, etc.	30.00			
Repairs, Renewals to Apparatus	69.99			
Expenses—Architect Contest	25.00			
Subscription to Magazines	47.20			
Student help—making Blueprints	40.07			
Reference Books	147.79			
Locks	40.00			
Lantern Slides	25.00	—$	425.05	$ 465.00
3. Electrical Engineering Division—				
Junior Laboratory Supplies	49.72			
Senior Laboratory Supplies	59.74			
Repairs and Renewals	104.80			
Class and Lab'y Notes for Students	29.98			
Students Assistance	123.85			
Periodicals and Reference Books	40.00			
Freight on Machinery	25.72			
Machine Bases and Rheostats	149.58			
Fuse Panal for Dynamic Lab'y	147.75			
Electrical Instruments	424.80			
Motor Generator Set	250.00			
Circuit Breakers	150.90	—$	1,556.84	$ 1,670.00
4. Forge and Foundry Division—				
Labor	$1,325.00			
Iron and Steel—Forge Shop	300.00			
Repairs,—Machinery and Appr.	107.29			
Supplies—Plumbago, Flour, etc.	60.56			
Coal for Forge Shop	390.00			
Pig Iron and Brass—Foundry	150.00			

Moulding Sand	57.00		
Coke for Foundry	65.00		
Rolled Steel Flasks	149.77		
Moulding Tools	31.83		
Shearing Machine	372.59—$	3,009.04	$ 3,082.00
5. Machine Shop Division—			
Labor—Machinist	689.40		
Repairs, Replacement Tools, etc.	188.82		
Shop Material	337.41		
Vertical Milling Attachment	125.00		
Tool Room Changes	242.00		
Oil Furnace and Blower	198.18		
Five Engine Lathe Chucks	235.98		
Taper Attachment	115.00		
Internal Grinder	100.00—$	2,231.79	$ 2,729.00
6. Mechanical Engineering Division —			
Laboratories Supplies	80.00		
Gasoline	14.25		
Date Blanks	40.00		
Repairs and Replacements	38.67		
Rheostat—Cen. Pump Motor	30.00		
Centrifugal Fan and Motor Unit	375.00		
Drying Oven	50.00		
Water Meter Prover	150.00		
Small Scales	20.00—$	797.92	$ 800.00
7. Office and Unclassified Division—			
Labor—Janitors	600.00		
Office and Janitor's Supplies	199.31		
Incidentals	9.83—$	809.14	$ 970.00
8. Wood Shop Division—			
Labor	398.50		
Supplies—Lumber, Paint, etc.	491.29		
Repairs, Replacement Tools, etc.	290.42—$	1,180.21	$ 1.115.00
9. Salaries—Professors and Assits.		33,566.63	34,020.00
		$ 44,781.85	
Excess of Appropriations over Expenditures	1,414.15		
		$ 46,196.00	$ 46,196.00

E—Military Department—

1. Office and Unclassified Division—	
Postage, Stationery, etc.	407.90
Military Supplies	199.88

Upkeep of Band	98.16		
Cadet Officers Sabres	195.05		
Loss of Federal Property	12.75		
Cadet Officers Insignia	219.25		
Unpaid Bills, 1920-1921	22.75		
Band Instruments	97.51		
Officers Equipment	15.78	$ 1,269.03	$ 1,979.65
2. Salaries—Commandant and Assts..		5,272.30	5,450.00
		$ 6,541.33	
Excess of Appropriations over Expenditures		888.32	
		$ 7,429.65	$ 7,429.65
F—Textile Department—			
1. Carding and Spinning Division—			
Cotton for Class Use	$339.95		
Repairs and Supplies	168.16		
Material for Cotton Grading	47.96		
Safety First Outfit	25.00	$ 581.07	$ 1,005.00
2. Dyeing Division—			
Chemicals and Dye Stuffs	198.94		
Glassware and Material	166.47		
Misc. Small Apparatus	143.53	$ 508.94	$ 525.00
3. Office and Unclassified Division—			
Janitor and Engineer	833.80		
Gasoline	76.84		
Stationery and Postage	38.24		
Student Labor	74.60		
Mill Boy Helper	300.00		
Textile Periodicals	83.55		
Freight on Donated Machinery	9.94	$ 1,416.97	$ 1,490.00
4. Weaving Division—			
Warps and Filling Yarn	550.86		
Loom Supplies and Repairs	116.32		
Knitting Yarn and Samples	42.86		
Card Cutting Machine	92.07		
Chairs and Tables	62.75		
Tools, Pulley, etc.	47.81	$ 912.67	$ 1,420.00
5. Salaries—Professors and Assts.		10,349.90	10,300.00
		$13,769.55	
Excess of Appropriations over expenditures		970.45	
		$ 14,740.00	$ 14.740.00

G—Public Utilities Department—

1. Campus Division—

Salary of Foreman (1/2)	$ 605.00		
Labor	1,395.91		
Fertilizer	348.53		
Seed, Plants and Trees	199.70		
Feed and Upkeep of Two Mules	399.40		
Tools, Machinery and Repairs	149.55		
Development Expt. Station Road	418.87		
Develop't opposite Barracks No. 2	364.81		
Cement Sidewalks, etc.	993.16	$ 4,874.93	$ 5,169.50

2. Construction and Repair Division—

Post Office Equipment	$4,499.53		
Office Supplies, Postage, etc.	49.06		
Repairs & Renewals of Appratus	15.29		
Tools and Implements	25.15		
Gasoline Truck	73.37		
Improvements & Repairs—Bldgs.	1,164.14		
Repairs to Public Buildings	4,496.73		
Repairs Residences 1921-1922	4,876.67		
Cement Floor—Barracks No. 1	58.87		
Cement Floor—Kitchen Bar. No.1	360.19		
Inside Steps Barracks No. 1	217.26		
Fumigating Room Cadet Hosp.	46.51		
Lattice—Cadet Hospital	23.64		
Bath and Toilet Cadet Hospital	128.59		
Ten Grate Fronts, Hearths, Hosp.	59.30		
Miscellaneous Items—Hospital	126.90		
Adapting school house-residence	489.55		
Lavatory in Toilet Y. M. C. A.	68.77		
Basement Room—Main Building	881.50		
Converting Annex to Appt House	2,014.47		
Garage for Truck	70.45		
Ford Truck, Const. & Repair Div.	615.38		
Chute for Garbage—River	91.47		
Grate in Hunter Residence	6.65		
Extension Crandall Rear Porch	65.18		
Enlarging Room Marshall House	237.90		
Toilet—Marshall House	182.89		
Glass Doors—Marshall House	29.00		
Salary Supt. Const. Rep. Div.	1,800.00		
Changes, etc., Engineering Dept.	4,077.32	$ 26,851.73	$ 29,272.32

3. Farm Division—

Ditching in Clemson Bottoms	1,557.38		
Dike—Lewis Bottoms	201.48		
Repairs to Barn	78.80	$ 1,837.66	$ 1,600.00

4. Heat, Light and Water Division—			
Power Station Equipment	5,502.84		
Labor	6,807.05		
Materials, Repairs & Extensions	1,905.04		
Coal	14,773.68		
Repairs to Generator, etc.	727.22		
Portable Chem. Fire Engine	216.86		
Fire Hose and Apparatus	250.00		
Lights, Water, etc., Herdsman's House	192.49	$ 30,375.18	$ 50,824.76
5. Roads, Sidewalks and Hauling Division—			
Labor—Truck Drivers, etc.	$1,744.38		
Hire of Teams from Farm	160.50		
Gasoline, Oil, Tires, and Repairs	797.23		
Road Scrape, etc.	520.00		
Salary of Superintendent	1,500.00	$ 4,722.11	$ 5,625.00
6. Watchman and Police Division—			
Salary—Watchman and Police	807.50		
Supplies	26.66	834.16	1,010.00
		$ 69.495.77	
Excess of Appropriations over Expenditures		24,005.81	
		$ 93,501.58	$ 93,501.58
H—Miscellaneous Department—			
1. Hospital Division—			
Hospital Equipment		$ 677.32	$ 677.57
2. Library Division—			
Salaries	$1,650.00		
Supplies, Cards, Stationery, etc.	15,84		
Magazines	273.25		
Membership Dues	27.50		
Books,	1,000.05	$ 2,966.64	$ 5,050.00
3. President's Office—			
Salaries	15,892.10		
Students' Cards, Forms, etc.	695.35		
Stamps, Stationery, etc.	989.56		
Traveling Fund	646.40		
Janitor and Janitor's Supplies	600.00	$ 18,823.41	$ 19,055.00
4. Telephone System—			
Upkeep of System	148.68		
Labor—Operation and Repairs	738.36	$ 887.04	$ 990.00

5. Miscellaneous Items Division—			
Expenses of Trustees and Board of Visitors	$ 897.02		
Insurance Sink Fund	5,335.51		
Contingent and Incidental Exp.	2,478.16		
Ministers	2,403.85		
Salary Y. M. C. A. Secretary	500.00		
College Catalogue	673.50		
Annual Report to Legislature	2.30		
Commencement Expenses	376.43		
Trustee Medals	42.20		
Oil Painting—Col. R. E. Bowen	303.40		
Membership National Association	91.00		
Examination Booklets	279.11		
Pension—J. B. Stevens	300.00		
Scavenger Service	480.00		
Boys Club Scholarship	600.00		
Live Stock Exhibits	279.34		
State Fair Exhibits	345.68		
Travel, etc., Leg. Committee	443.25		
Salary of Magistrates	99.96		
Contingent Salaries	591.20		
Contribution to Clemson College High School	2,750.00	$ 19,271.91	$ 22,975.51
6. Treasurer's Office Division—			
Salaries	$4,746.63		
Student Cards, Books, etc.	580.49		
Record Books, Postage Stamps,	774.30		
Emergency Assistance	420.00		
Premium on Bonds	75.00		
Voucher File	66.35		
Auditing Assistance	311.06	$ 6,973.83	$ 7,062.08
		$ 49,600.15	
Excess Appropriations over Expenditures		6,210.01	
		$ 55,810.16	$ 55,810.16

SUMMARY OF COLLEGE FUND

(Expenditures vs. Appropriations by College Trustees)
(Fiscal Year Ended June 30, 1922)

Departmental Expenditures—

Public State Work	Trustees Appropriation,	Amount Expended,	Balance Unexpended
A—Scholarships and Advertising	$20,000.00	$14,461.98	$ 5,538.02
B—Fertilizer Inspection and Analysis			
Inspection	11,570.00	10,298.32	1,271.68
Anaylsis	28,700.00	12,630.97	16,069.03
	$60,270.00	$37,391.27	$22,878.73

Departmental Expenditures—

College Work			
A—Academic Department	$ 36,935.00	$ 35,039.50	$ 1,895.50
B—Agricultural Department	61,963.34	54,431.64	7,531.70
C—Chemical Department	11,975.00	11,691.87	283.13
D—Engineering Department	46,196.00	44,781.85	1,414.15
E—Military Department	7,429.65	6,541.33	888.32
F—Textile Department	14,740.00	13,769.55	970.45
G—Public Utilities Department	93,501.58	69,495.77	24,005.81
H—Miscellaneous Department	55,810.16	49,600.15	6,210.01
	$328,550.73	$285,351.66	$ 43,199.07

Total Public State Work	$ 60,270.00	$ 37,391.27	$ 22,878.73
Total College Work	328,550.73	285,351.66	43,199.07
Total	$388,820.73	$322,742.93	$ 66,077.80
Unapportioned Funds—			
(Inc. in Statement of Cash Receipts)			
Sundry Cash Receipts	$ 5,425.07		$ 5,425.07
			$ 71,502.87
Unexpended Balance June 30, 1922		71,502.87	
	$394,245.80	$394,245.80	

SPECIAL FUNDS

General Comments—

This section refers to a number of Special funds, including receipts from the Federal Government for research and experimental purposes; the sale of experiment farm products and other accounts not directly connected with the general College fund reported in the preceding sec-

tion. The following funds (as shown on pages 19-22) represent amounts appropriated by the United States Government, to wit:

Adams Fund,
Hatch Fund, and
Smith-Lever (Federal) Fund.

And the Farm Products fund is used for similar work. (See statement, page 25). On pages 21-24, also, the State funds provided for public work are given, as follows:

Smith-Lever (State) Fund,
and State Appropriation (Direct).

The direct State appropriation is disbursed through the office of Comptroller General of South Carolina, but the figures are reported to this office and carried on the Treasurer's books, as a matter of record.

The other funds referred to originate at the College, forming a part of the general accounting system which the Treasurer has, so cleverly worked out, and are classified as follows:

Revolving Fund,
Cadet Fund,
and Cadet Deposits.

These funds are used as indicated through the statements herewith, on pages 26-28, and the various transactions entering into the accounts are carried on the books of account in a thoroughly explanatory manner. The Cadet Deposit statement is merely a summary, covering the private banking business operated by the College for convenience of the cadet students.

GENERAL STATEMENT OF ADAMS FUND

(Fiscal Year ended June 30, 1922)

RECEIPTS

U. S. Treasury Warrants—		
August 31, 1921	$3,750.00	
October 31, 1921	3,750.00	
January 31, 1922	3,750.00	
May 31, 1922	3,750.00	
Total		$ 15,000.00

DISBURSEMENTS

Items—

*1.	Salaries	$10,643.80
*2.	Labor	2,174.12
3.	Postage and Stationery	8.50
4.	Freight and Express	15.83
5.	Heat, light, Water and Power	274.60
6.	Chemicals and Laboratory Supplies	195.71
7.	Seeds, Plants, etc.	287.08
8.	Fertilizers	259.56
9.	Library	5.00
10.	Tools, Machinery and Appliances	73.40
11.	Furniture and Fixtures	3.11
12.	Scientific Apparatus and Specimens	1,026.62
13.	Live Stock	6.00
14.	Buildings and Land	26.67
	Total	$ 15,000.00

***Analysis of Personal Service Expense—**

Salaries—			
	Directors and other Administrative Officers	$ 1,388.32	
	Scientific Staff	8,683.26	
	Assistants to Scientific Staff	572.22	—$ 10,643.80
Labor—			
	Annual and Monthly Employees	$ 888.09	
	Daily employees	1,240.12	
	Hourly Employees	45.91	—$ 2,174.12
	Total		$ 12,817.92

GENERAL STATEMENT OF HATCH FUND

(Fiscal Year ended June 30, 1922)

RECEIPTS

U. S. Treasury Warrants—		
	August 31, 1921	$ 3,750.00
	October 31, 1921	3,750.00
	January 31, 1922	3,750.00
	May 31, 1922	3,750.00
	Total	**$ 15,000.00**

DISBURSEMENTS

Items—

*1.	Salaries	$ 7,919.42
*2.	Labor	2,636.74
3.	Publications	122.67
4.	Postage and Stationery	408.17
5.	Freight and Express	139.58
6.	Heat, Light, Water and Power	132.84
7.	Chemicals and Laboratory Supplies	178.97
8.	Seeds, Plants, etc.	536.62
9.	Fertilizer	603.93
10.	Feeding Stuffs	932.66
11.	Library	723.91
12.	Tools, Machinery and Appliances	353.69
13.	Furniture and Fixtures	170.90
14.	Live Stock	6.00
15.	Traveling Expenses	84.71
16.	Building and Land	49.19
	Total	$ 15.000.00

***Analysis of Personal Service Expense—**

Salaries—			
Director and other Administrative Officers and Clerks	$ 4,439.04		
Scientific Staff	3,480.38	—$	7,919.42
Labor—			
Annual and Monthly Employees	$ 154.50		
Daily Employees	2,393.29		
Hourly Employees	88.95	—$	2,636.74
Total		$	10,556.16

GENERAL STATEMENT OF SMITH-LEVER FUNDS

(Fiscal Year ended June 30, 1922)

RECEIPTS

Appropriations—		
U. S. Treasury Warrants	$147,902.57	
State Warrants (S. C.)	94,147.00	
County Funds Paid direct by Counties	43,755.57	
Total to Account for		$285,805.14

Accounted for as follows—

Item— Expenditures (Vouchers)	Total	Federal Fund	State and County
1. Administration	$ 26,541.03	$ 10,785.86	$ 15,755.17
2. Printing and Distribution Publications	6,653.89	3,484.28	3,169.61
3. County Agent Work	96,992.79	47,452.33	49,540.46
4. Home Dem. Specialists	11,140.02	11,140.02	None
5. Home Demonstration Work	57,747.88	23,573.62	34,174.26
6. Negro Demonstration Work	5,892.16	5,382.64	509.52
7. Live Stock	11,906.51	9,221.33	2,685.18
8. Dairy	10,824.53	4,655.13	6,169.40
9. Agronomy	17,045.08	9,459.94	7,585.14
10. Horticulture	14,153.30	7,211.40	6,941.90
11. Poultry	3,095.39	3,059.18	36.21
12. Marketing	11,575.60	5,311.64	6,263.96
13. Entomology	4,775.24	2,866.05	1,909.19
14. Botany, etc.	600.00	600.00	None
15. Boys Club Work	6,143.86	3,233.29	2,910.57
16. Cotton Marketing and Grading	717.86	465.86	252.00
Total	$285,805.14	$147,902.57	$137,902.57

STATEMENT OF SMITH-LEVER FUNDS

(Fiscal Year ended June 30, 1922)

Revised Classification of Expenditures

Personal Service—		
Salaries	$218,247.00	
Labor	85.15	$218,332.15
Traveling Expenses		50,092.32
Printing and Distribution of Publications		6,103.89
Postage, Telephone, Telegraph, Freight, etc.		3,043.07
Library		111.39
Stationery and Small Printing		838.17
Supplies		1,754.14
Contingent Expenses		1,094.02
Scientific Apparatus and Specimens		113.35
Tools, Machinery and Appliances		22.03
Furniture and Fixtures		3,680.49
Heat, Light, Water and Power		620.12
Total		$285,805.14

STATEMENT OF STATE APPROPRIATIONS

(Appropriations paid through Comptroller General's Office)
(Fiscal Year ended June 30, 1922)

RECEIPTS

1. Agricultural Research Work	$ 49,083.73	
2. Crop Pest and Disease Work	9,832.97	
3. Live Stock Sanitary Work	51,430.06	
4. Tick Eradication	15,679.68	
5. Slaughtering of Diseased Animals	2,118.42	
Total		$128,144.86

DISBURSEMENTS

1. Agricultural Research Work—

Salaries—		
Superintendents	$ 8,315.00	
Foremen	1,849.98	
Herdsmen	2,736.00	
Others	12,055.52	$ 24,956.50
Labor		4,308.73
Labor and Other Misc. Expenditures		1,291.19
Traveling Expenses		2,669.85
Seeds, Plants, Fertilizer, etc.		6,349.44
Underdraining and Clearing		424.73
Fencing Pastures, etc.		932.27
Feed		68.25
Silos and Cattle Barns		2,891.51
Chemical Work for State		1,708.33
Tools and Implements		59.45
Live Stock (two mules)		662.28
Machinery and Equipment		1,234.07
Care of Cattle and Building Pasture		1,140.26
Publication of Research		386,87 — $ 49,083.73

2. Crop Pest and Disease Work—

Salaries—		
Clerk and Stenographer	$ 970.00	
Other Salaries	6,266.72	$ 7,236.72
Labor		200.00
Traveling Expense		1,639.18
Office Supplies, etc.		757.07 — $ 9,832.97

3. Tick Eradication—

Salaries and Inspections	$ 11,591.32	
Traveling Expenses	504.67	
Supplies	3,583.69	$ 15,679.68

4. Live Stock Sanitary Work—		
Salaries—		
Veterinarians (12)	$ 26,669.19	
Asst. to Veterinarians	11,155.97—$	37,825.16
Traveling Expenses	6,046.24	
Misc. Supplies and Expenses	948.86	
Disinfectants, etc.	5,404.57	
Office Equipment	171.10	
Other Equipment	1,034.13—$	51,430.06
5. Slaughtering of Diseased Live Stock—		
Reimbursement for slaughtered animals		2,118.42
Total Expenditures		$128,144.86

GENERAL STATEMENT OF FARM PRODUCTS ACCOUNT

(Sale of Farm Products—Fiscal Year ended June 30, 1922)

RECEIPTS

Sales—	
Farm Products sold July 1, 1921 to June 30, 1922	$ 4,182.29

DISBURSEMENTS

Item—		
1. Salaries	$ 379.92	
2. Labor	353.24	
3. Publications	328.36	
4. Postage and Stationery	163.87	
5. Freight and Express	63.98	
6. Chemical and Laboratory Supplies	16.72	
7. Seed, Plants, etc.	223.27	
8. Feed	32.00	
9. Library	25.79	
10. Tools, Machinery and Appliances	10.24	
11. Traveling Expense	206.71	
12. Contingent	5.00	
13. Buildings and Land	533.83—$	2,342.93
Overdraft—July 1, 1921		421.85
	$	2,764.78
Cash balance to account for June 30, 1922 (page 30)		1,417.51
	$	4,182.29

REVOLVING FUND ACCOUNT

(Fiscal Year ended June 30, 1922)

Balance—July 1, 1921		$114,083.78
Cash Received—July 1, 1921 to June 30, 1922—		
Total Receipts (as audited)		281,334.13
Total to account for		$395,417.91
Expenditures—July 1, 1921 to June 30, 1922—		
Item—		
1. Animal Husbandry	$ 5,661.79	
2. Athletic Association	7,810.71	
3. Barracks—Fire Loss	5,166.61	
4. Cadet Exchange	18,265.13	
5. Coast Experiment Station	495.60	
6. Co-operating Cotton Testing	1,060.19	
7. Creamery	19,856.29	
8. Dairy	10,956.09	
9. Education of Disabled Soldiers	12,938.35	
10. Farm	12,851.31	
11. Hog Cholera Serum Work	31,623.12	
12. Hotel	17,472.79	
13. Insurance	11,701.17	
14. Lost Government Property	20.02	
15. Magistrates Fines	302.05	
16. Nursery Tags	916.63	
17. Pee Dee Experiment Station	7,491.42	
18. Poultry	16.54	
19. Receiving Account (Sundry sales, etc.)	13,198.81	
20. Rents	9,852.27	
21. Smith-Lever Interest Account	1,690.21	
22. Smith-Hughes Work	24,564.11	
23. Student Fees	4,906.43	
24. Student Loan Funds	450.00	
25. Veterinary Hospital	2,237.48	
26. Wood Shop	1,052.61	
27. Miscellaneous	12,884.96	$235,442.69
Building Sinking Fund (Transferred)		51,940.93
Reserve Fund (Transferred)		77,209.35
		$364,592.97
Cash Balance to account for June 30, 1922		30,824.94
		$395,417.91

GENERAL STATEMENT OF CADET FUND
(Fiscal Year ended June 30, 1922)

Balance July 1, 1921		$ 7,848.49
Receipts July 1, 1921 to June 30, 1922, Inc.—		
1. Activity Fees	$ 7,732.14	
2. Breakage	2,875.87	
3. Diplomas	477.85	
4. Hospital	12,110.29	
5. Incidentals	6,999.54	
6. Laundry	14,650.58	
7. Miscellaneous	296.72	
8. Room, Heat, Light and Water	16,070.70	
9. Subsistence	153,769.62	
10. Uniforms	29,304.37—$244,287.68	
Total		$252,136.17

Disbursements July 1, 1921 to June 30, 1922, Inclusive—

1. Activity Fees—		
1. Athletic Association	$ 2,992.76	
2. Y. M. C. A.	2,013.66	
3. Tiger	927.20	
4. Chronicle	899.13	
5. Lyceum	843.06	
6. Refunds	56.33—$ 7,732.14	
2. Breakage		2,875.87
3. Diplomas		471.95
4. Heat, Light and Water		16,100.48
5. Hospital		10,100.60
6. Incidentals (not otherwise classified)		6,135.60
7. Laundry		12,759.22
8. Laundry Building		1,891.36
9. Miscellaneous Items		3,197.19
10. Subsistence—		
1. Provisions	110,178.98	
2. Supervision	4,166.63	
3. Labor	21,221.62	
4. Fuel	None	
5. Supplies	1,907.12	
6. Miscellaneous	5,147.01	
7. Refunds	4,886.39	
8. New Equipment	522.42—$148,030.17	
11. Uniforms		29,387.58—$238,682.16
Cash Balance June 30, 1922		13,454.01
		$252,136.17

CADET DEPOSIT ACCOUNT

(Banking Division Maintained for Convenience of Students)
(Fiscal Year ended June 30, 1922)

DEBIT

Balance on hand July 1, 1921	$ 392.10	
Funds received July 1, 1921 to June 30, 1922—		
Total amount deposited by students and others	$65,976.35	$ 66,368.45
Overdraft June 30, 1922		73.22
		$66,441.67

CREDIT

July 1, 1921 to June 30, 1922—		
Total checks paid	$66,441.67	
		$ 66,441.67

(July 1, 1922 to September 19, 1922)

Total amount deposited		$ 12,858.50
Overdraft September 19, 1922		47.57
		$ 12,906.07
Checks paid	$ 12,906.07	
Total		12,906.07

CASH REPORT

Combined Statement—

On page 30, of this report, I present a combined statement of all funds, showing both receipts and disbursements for the period commencing July 1, 1921 and ending June 30, 1922. The cash balances are brought forward and are accounted for by the statement of cash in banks, on pages 31-32. A supplementary cash statement is submitted on page 33, showing receipts and disbursements, on account of all funds, from July 1, 1922 to September 7, 1922, close of business.

Cash Statements—

At the close of business September 7, 1922, I carefully counted the cash in the Treasurer's office and audited all items counted as cash—as indicated by the schedule on page 34. As statements from all banks were not available at that date (September 7, 1922) the bank accounts were not verified until later. However, a thorough audit, in this connection, was made at the close of business September 19, 1922, and the cash account was absolutely verified at this date (See statements, pages 35-37).

I beg to report, in conclusion, that all funds of record have been accounted for in a highly satisfactory manner. The records indicate that

the cash on hand is balanced daily and that all bank accounts are absolutely reconciled on the last day of each month.

COMBINED STATEMENT ALL FUNDS

(Consolidated Report on all Funds, Year ended June 30, 1922)

Cash on Hand July 1, 1921 (Last audit)—		
Revolving Fund	$114,083.78	
Cadet Fund	7,848.49	
Cadet Deposits	392.10—$122,324.37	
Less: S. C. Experiment Station Overdraft	421.85—$121,902.52	
Receipts—		
College Account—		
General Sources	$204,194.34	
Reserve Fund (Transferred	77,209.35	
State Loan	112,842.11—$394,245.80	
Hatch Fund	15,000.000	
Adams Fund	15,000.00	
Farm Products Account	4,182.29	
Revolving Accounts	281,334.13	
Cadet Funds	244,287.68	
Cadet Deposits	65,976.35	
State Funds—Through Compt. General—		
Agricultural Research Work	$ 49,083.73	
Crop Pest and Disease Work	9,832.97	
Live Stock Sanitary Work	51,430.06	
Tick Eradication Work	15,679.68	
Slaughtering Diseased Animals	2,118.42—$128,144.86	
Smith-Lever Extension Fund—		
State & Federal Appropriatn's	$242,049.57	
County Funds paid by Co. Offic's	43,755.57—$285,805.14	$1,433,976.25
Total to account for		$1,555,878.77
Account for as Follows (Vouchers audited)		
Expenditures—		
College Account	$322,742.93	
Hatch and Adams Funds	30,000.000	
Farm Products Account	2,342.93	
Smith-Lever Ext. Work (including Co. funds)	285,805.14	
Revolving Funds	364,592.97	
Cadet Funds	238,682.16	
Cadet Checks Paid	66,441.67	
State Appropriations—Compt. General	128,144.86	$1,438,752.66
Cash Balances—June 30, 1922 (See page 32)		
College Fund	$ 71,502.87	
Cadet Fund	13,454.01	
Re-Investment Fund	30,824,94	
Farm Products Account	1,417.51—$117,199.33	

Less
Cadet Deposits Acct. (Overdraft) 73.22—$117,126.11

$1,555,878.77

RECONCILIATION OF BANK ACCOUNTS

(Close of Business June 30, 1922)

	Bank Certificate Balance	Treasurer's Balance
1. National Bank of Newberry (Smith-Lever)		
Balance as per Bank Certificate	$ 10,000.00	
Checks out	None	$1 0,000.00
2. Union Savings Bank, Bennettsville (Smith-Lever)		
Balance as per Bank Certificate	$ 9,980.00	
Checks out	None	9,980.00
3. Farmers & Merchants Bank, Anderson		
Balance as per Bank Certificate	$ 17,500.00	
Checks out	None	17,500.00
4. National Bank of Sumter		
Balance as per Bank Certificate	$ 14,000.00	
Checks out	5,000.00	9,000.00
5. Bank of Pendleton (Time Deposit)		
Balance as per Bank Certificate	$ 5,000.00	
Checks out	None	5,000.00
6. Farmers Bank, Abbeville		
Balance as per Bank Certificate	$ 7,500.00	
Checks out	None	7,500.00
7. Commercial Bank, Greenwood		
Balance as per Bank Certificate	$ 6,000.00	
Checks out	None	6,000.00
8. National Bank of Abbeville		
Balance as per Bank Certificate	$ 6,000.00	
Checks out	None	6,000.00

9. The Fort Hill Bank, Clemson College		
Balance as per Bank Certificate	$ 2,000.00	
Checks out	None	2,000.00
10. Peoples Savings Bank, Abbeville		
Balance as per Bank Certificate	$ 6,000.00	
Checks out	None	6,000.00
11. Bank of Greenwood		
Balances as per Bank Certificate	$ 6,000.00	
Checks out	None	6,000.00
12. Union Savings Bank, Bennettsville		
Balance as per Bank Certificate	$ 15,000.00	
Checks out	None	15,000.00
13. Palmetto National Bank		
Balance as per Bank Certificate	$ 10,000.00	
Checks out	None	10,000.00
14. Bank of Pendleton (College and Smith-Lever)		
Balance as per Bank Certificate	$ 43,100.80	
Less Checks out June 30, 1922 (as audited)	35,881.47	7,219.33
Total Treasurer's Balance June 30, 1922		$117,199.33

GENERAL CASH STATEMENT

(Combined Statement All Funds, September 7, 1922)

Receipts July 1, 1922 to September 7, 1922, inclusive—		
Morrill Fund	$25,000.00	
Hatch Fund	3,750.00	
Adams Fund	3,750.00	
Re-Investment Fund—S. C. Exp. Station	3,492.29	
Clemson Bequest	1,756.18	
Land Scrip	2,877.00	
Tuition	3,630.00	
Smith-Lever Fund—Federal	78,007.24	
Miscellaneous Petty Funds	19,562.23	
Cadet Fund	52,182.45	
Cadet Deposits	9,202.00	
		$203,209.39
Deduct—		
Overdraft June 30, 1922 (See page 28)	$ 73.22	

Deposits July 1, 1922 to Sept. 7, 1922, inclusive—			
Morrill Fund			$25,000.00
Hatch Fund			3,750.00
Adams Fund			3,750.00
Re-Investment Fund			3,151.29
Clemson Bequest			1,756.18
Land Scrip			2,877.00
Smith-Lever Fund—Federal			78,007.24
Miscellaneous Petty Funds			18,233.80
Cadet Deposits	$8,687.48		
Cadet Deposits	73.22—	8,614.26—	$145,212.99
Cash Balance September 7, 1922, close			$ 57,996.40
Accounted for as follows—			
Cash in Office (see page 34)		$ 13,084.27	
Cash in Bank (see page 35)		44,912.13	
Total			$ 57,996.40

STATEMENT OF CASH IN OFFICE

Close of business September 7, 1922, as counted)

National Currency and Legal Tender—			
One hundred dollar bills		$ 100.00	
Fifty-dollar bills		50.00	
Twenty-dollar bills		1,220.00	
Ten-dollar bills		2,490.00	
Five-dollar bills		750.00	
One-dollar bills		33.00—	$ 4,643.00
Silver and Minor Coin—			
Quarters	$ 6.00		
Dimes	60.10		
Nickels	35.05		
Coppers	07—	$	101.22
Actual Cash as Counted			$ 4,744.22
Checks for Deposit—			
Checks as audited included in Deposit prepared for Bank of Pendleton	$ 2,894.85		
P. O. Money Orders as audited	301.26—	$	3,196.11
			$ 7,940.33

Other Items counted as Cash (as audited)—		
Approved Claims—Labor and Expenses	$ 2,578.49	
Refund to Students	202.40	
Sundry Advances to Traveling Expense, Employees, etc.	2,363.05	—$ 5,143.94
Total Cash and Items counted as Cash		$ 13,084.27

RECONCILIATION OF BANK ACCOUNT

(July 1, 1922 to September 19, 1922)

Bank of Pendleton—(Checking account)		
Overdraft as per Bank certificate June 30, 1922		$ 31,882.97
Checks out (as audited) June 3, 1922		817.41
Overdraft—Treasurer's records June 30, 1922		$ 32,700.38
Deposits—		
July, 1922	$ 47,341.73	
August	28,638.00	
September 1 to 7, inclusive	52,362.83	
	$128,342.56	
Checks Issued—		
July, 1922		$ 7,334.67
August		35,326.71
September 1 to 7		8,058.67
Error in June corrected		10.00
		$ 83,430.43
	$ 83,430.43	
Treasurer's balance September 7, '22, (page 33)		$ 44,912.13
Add—Deposits		
September 7 to 19, 1922, inclusive		22,233.97
		$ 67,146.10
Checks Issued—		
September 7 to 19, 1922, inclusive		2,598.90
Treasurer's balance September 19, 1922, close		$ 64,547.20
Balance as per Bank certificate September 19, 1922		$ 65,638.39
Check Lost		2.00
		$ 65,640.39

Less—Checks outstanding—

No. 581	$14.50	
1341	3.94	
1398	1.31	
1446	3.94	
327	8.25	
908	10.00	
533	22.50	
562	43.00	
563	52.37	
564	106.00	
565	60.37	
579	59.37	
580	62.37	
581	50.37	
583	53.19	
585	32.70	
586	123.80	
587	47.19	
588	321.45	
593	16.57	$ 1,093.19
Treasurer's balance September 19, 1922		$ 64,547.20

GENERAL CASH STATEMENT

July 1, 1922 to September 19, 1922)

Cash Balance July 1, 1922 (See page 30)		$117,126.11
Receipts—		
Cadet Fund and Tuition	$ 59,536.64	
Morrill Fund	25,000.00	
Landscrip	2,877.00	
Clemson Bequest	1,756.18	
Adams Fund	3,750.00	
Hatch Fund	3,750.00	
Farm Products	4,047.16	
Re-Investment Fund	33,041.96	
	$133,758.94	
Smith-Lever Fund (State)	110,862.85	
Smith-Lever Fund (Federal)	78,007.24	$322,629.03
		$439,755.14

Deduct—Disbursements—		
Re-Investment Fund	$ 36,858.85	
College and Cadet Funds	98,087.32	
Adams Fund	2,069.56	
Hatch Fund	2,082.64	
Farm Products Account	3,677.51	
	$142,775.88	
Smith-Lever Fund	44,877.58—$187,653.46	
		$252,101.68
Cadet Deposit Account—		
Checks Paid	$ 12,906.07	
Less—Deposits	12,858.50—$ 47.57	
		$252,054.11
Add—Miscellaneous Cash		20.00
Net Cash to account for September 19, 1922		$252,074.11

Accounted for as follows—	
Bank of Pendleton (Combined Accounts) Net balance	$ 2,651.34
Other Cash in Banks (see schedule, page 37)	238,850.09
*Cash in Office	10,572.68
Total	$252,074.11

*NOTE—The cash in office was counted under date of September 7, 1922—but I have proved the balance shown above to the close of business September 19, 1922.

STATEMENT OF CASH IN BANKS

(Close of Business, September 19th, 1922)

Bank of Pendleton—(Checking accounts)	
Net balance (as audited)	$ 2,651.34
Other Bank Accounts—(5 percent interest on daily average)	
Farmers & Merchants Bank, Anderson	$ 17,500.00
National Bank of Sumter	9,000.00
Farmers Bank, Abbeville	2,500.00
Peoples Savings Bank, Abbeville	6,000.00
National Bank of Abbeville	1,000.00
Union Savings Bank, Bennettsville	15,000.00
Bank of Greenwood	6,000.00
Fort Hill Bank, Clemson College	2,000.00
Commercial Bank, Greenwood	6,000.00

Bank of Pendleton	5,000.00	
National Bank, Newberry (Smith-Lever)	40,000.00	
Union Savings Bank (Smith-Lever)	9,980.00	
Palmetto National Bank (Smith-Lever)	118,870.09	
	$238,850.09	
Checks out	None—	$238,850.09
Total		$241,501.43

SUMMARY

Bank of Pendleton (as audited)	$ 2,651.34
Other Banks	238,850.09
	$241.501.43
Cash in office (account verified)	10,572.68
Total	$252,074.11

REPORT OF THE BOARD OF VISITORS
1922

The Board of Visitors for 1922 assembled at Clemson College at 2:30 P. M., May 3, and were quartered in the trustees' house by the president, where they enjoyed a generous hospitality and every comfort during their sojourn, which ended about 4 P. M. the next day. Present were C. H. Seigler of Aiken, Second Congressional District; S. J. Derrick, of Newberry, Third; A. F. McKissick, Greenville, Fourth; J. Lyles Glenn, Chester, Fifth; J. S. Thompson, Dillon, Sixth; and W. W. Ball, Columbia, seventh. Robert Lanthan, of Charleston, appointed from the First District was unavoidably absent. The board organized by electing A. F. McKissick Chairman and W. W. Ball Secretary. Mr. Derrick, President of Newberry College, was chosen by the board to deliver a ten minute address to the students at chapel Thursday morning, a duty which he performed with excellent grace and pith.

General Statement—

Beginning at 3 P. M. and continuing throughout the afternoon and the next morning, the board inspected the various departments of the college under the guidance of their respective directors and professors. In the evening the president described to the board assembled in his office the operations of the college, skectching the founding of it and illustrating the narrative with lantern slide pictures. Thus an admirably comprehensive notion of the institution was derived.

Clemson has a pituresque site on the high hills rising from the Seneca river and commanding a view of the Blue Ridge a score of miles distant. The gentle slopes and glades covered with green grass, with long vistas opening through the trees of the original forest and numerous ornamental trees and shrubs, making a setting ideal for the houses where young men have their homes in the period that they are trained for their life's work and their characters are developed.

The Cadet Corps—

Short as their visit was, your board had opportunity to observe the manly and courteous demeanor of the 800 and more cadets. They appeared a robust, cheerful and earnest body of young South Carolina youth intent upon their tasks, proud of their institution and having a fine spirit as a corps. This conclusion was stronger upon the board when they dined with the cadets in the messhall on the second day as the guests of a committee, no members of the faculty being present. The food was wholesome, bountiful, well cooked and well served, and the great dining room was a pattern of neatness, order and good fellowship. The kitchens, pantries and refrigerating rooms were alike all that could be desired. The board inspected barrack rooms of cadets and their appurtenances, all of which were in good condition.

The Military Government of the Students—

Your board was in some measure surprised to observe the thoroughness of the military government and discipline. The corps is under the command of Colonel Pearson, four captains and one lieutenant, of the United States army, and cadet officers. The board has pleasure in dispelling, so far as it may an impression too prevalent that Clemson is half-baked as a military college and in commending it as a soldiers' school. It believes that the usefulness of a college of the type of Clemson is enhanced by the emphasis placed upon military discipline and hopes it will not be diminished. That the school is ranked by the war department as one of the four distinguished military colleges in this district of the United States will be readily understood even by those who casually survey it at work.

Records—

Financial administration of the institution is more than excellent. The methods were explained to the board in great detail and the members saw that a model of accuracy and comprehensive efficiency in bookkeeping has been arrived at. In addition to an elaborate and exact system of checking and counter-checking that seemingly would promote the highest degree of economy while preventing waste, extravagance and dishonesty in expenditures, an interesting and valuable record of the performance of the cadets is carefully kept. The composite report of all the professors and instructors of the conduct and scholarship of each cadet make an index of his character. Thus, when an employer is seeking an expert the college is enabled to report with remarkable precision upon the qualifications of any graduate or student under consideration, this report being the resultant of the recorded observations of a large number of the faculty and officers.

Financial Support—

Clemson College has depended in the main for the support of its collegiate activities as well as for the building and extension of its plant upon the fertilizer tag tax. The last two years, on account of the boll weevil infestation and agricultural depression, these revenues have been more than cut in half and loans from the state's sinking fund, authorized by the legislature, have been the resort. No early increase in the revenues from fertilizer inspection is in prospect, and the question of future support of the college presses for answer. Two courses are open. The one is that inspection revenues be covered into the state treasury and that the college be supported by direct appropriation. The second is that the college receives as heretofore the inspection revenues and that the legislature directly appropriate an additional sum that will provide for its comfortable maintenance. The legislature would determine the minimum amount of money that the college will need for a year and guarantee that it receives the difference between the total of inspection and other revenues and that amount. The Board advises the adoption of this second course. It would be for

the legislature to say in what degree it should control the manner of expenditure, whether of the inspection revenues or of the direct appropriation.

Live Stock—

The board find improvement in the quality of the livestock. A former board of visitors criticized the presence of grade animals. These have been practically eliminated.

Need of Gymnasium—

While the college has an admirable Y. M. C. A. building equipped with a fine swimming pool, it needs a gymnasium. The athletic fields are all that could be wished, but the want of facilities for indoor physical training is plain.

Hospital Facilities:

The hospital is a frame building, airy, clean and attractive. The general health conditions at Clemson being decidely better than in the average institution, it with its limited number of beds, is sufficient to meet ordinary demands but a much larger and more substantial house with operating rooms and other conveniences should be erected. Were a serious disease epidemic in the college the accomodations now existent would be inadequate. No difficulty would be had in utilizing the present building for other purposes.

Hard Surfaced Roads—

The value of the property to the state would be enhanced were hard-surfaced roads constructed. A beginning of this work should be made at once and in the next two or three years at least two miles of such road should be built, so that communication between the departments of the college would be easy. A spacious campus of striking natural beauty, cared for with diligence and good taste as it is, should no longer be deprived of the added attractiveness which a comparatively small outlay on roadways would give to it.

Forestry Oversight Needed—

The time has come when the people of South Carolina can no longer afford to neglect their forests. The wealth of the state at small cost could be greatly augmented by reforestation of many areas of waste land and by conserving the woodlands that remain. Clemson should be the agency assigned to this important task and a department of forestry should be without delay included in the college and clothed with legal power needful to make its direction effective throughout the state.

GROWTH OF CLEMSON—

The number of cadets now in the college is above 800 and is as many as can be housed without crowding. It is believed that the attendance would enlarge to 1200 or 1500 were barracks available and in that

case the per capita cost of training and supporting cadets would be decreased. If it be true, as your board is convinced, that numbers of young men are knocking at the doors of Clemson and must be denied admission because the college is full to capacity, it seems to follow that in future the standards of admission will be automatically raised. Inevitably, preference will be given to youths who are best prepared for college work and those to whom the better secondary schools, usually found in the cities and larger towns, are open, will enjoy a marked advantage. If it is desirable that the college shall raise its standards and be a less popular institution, that result is promoted by the fact that the number of cadets is limited by the rooms available while the number of applications constantly increases. Your board is of opinion that, for the present, Clemson should expand horizontally, so to say, that it should take in and train every boy in the state who would have the training that it now offers, and for that reason it concludes that the **construction of more dormitories is an urgent need.** It is not a wise policy to allow the attendance to catch up with the housing facilities. The room for students always should be a little more than that for which there is insistent demand. South Carolina has not yet passed through the agricultural and industrial changes that have been going on the last 30 years, and Clemson should be liberally assisted in giving them direction. Technical education should be offered by the state to every boy who is ambitious to obtain it and on the lowest possible terms. Clemson has solved the problem of economical schooling and it will be the fault of the state if the school shall be closed to any of its youth who would share in it.

Branch Experiment Stations—

As a part of Clemson College work experimental stations are now conducted at Florence for the Pee Dee district, and at Drainland for the coastal region. They are centers of instruction in scientific farming and farm research for their respective sections. The college itself amply serves the Piedmont. To round out the system the state should purchase land and establish a similar station in the southwestern or lower Savannah river district. That part of the state is justly entitled to a station and its farmers will not have the treament from the state that they deserve until it shall be provided.

EXPERIMENTAL FARMS—

Your board approaches its final recommendation with diffidence, if not doubt, and with some inkling of the difficulties of putting it into effect. Nevertheless, it hazards the suggestion that the college should carry on farms, either on lands at Clemson or on those at experimental stations, as units, with the object of discovering the financial results to be expected from farming in South Carolina. It seems to your board that it would be valuable were plots of ground set aside to be operated as complete farms, planted to a variety of crops, improved with gardens

orchards and the other features of a privately owned farm, that they be cultivated under the direction of the college and that their records be carefully kept, to the end that it be demonstrated whether they were profitble or not. It might be advisable to employ farmers to operate them under a profit-sharing contract. If methods and crops proved unprofitable one year, they could be changed the next, and if one experimental farm failed, another might succeed. Evidence should be at hand to prove approximately what is to be had out of farming in South Carolina, and though Clemson might not be able to furnish it in the single year, the effort to get it would be worth while if many years and some apparent loss of money were required. A mammoth hog is an impressive spectacle, but it does not always lead to a correct conclusion. What did it cost to raise the hog? Can the average farmer make a farm pay and if not, why not? While the cost of labor and other expenses might and would be greater to the college proceeding as a farmer, those disadvantages could be discounted in the reckoning and the college might have compensating advantages. At any rate, your board believes that it is within the province and it should be the duty of a state agricultural college to investigate the problem of the farm itself and to supply the evidence to the people of what they may look for from farming as a vocation. These unit farms would perhaps establish little or nothing in some years and their evidence often would be disappointing, but your board believes that in the long run the cumulative results would be of the highest value. Would two or three complete little farms conducted by Clemson with the aim that each be self-sustaining and profitable succeed? The only way to answer that question is to try out the farms and the cost of it should not be prohibitive.

Conclusion—

This report your board cannot submit without repeating and stressing that it is well aware that not everything can be learned about Clemson and agriculture in 24 hours. It hopes that it will not be understood as taking itself too seriously. At all events the suggestions are presented with the earnest wish that some of them may arouse thinking that will fruit in widening and enlarging the usefulness of a great institution.

Report of the Director of Experiment Station

To President W. M. Riggs,

Clemson College, S. C.

Dear Sir:

The period covered by this, the thirty-fifth annual report of the South Carolina Experiment Station for the fiscal year ending June 30, 1922, was one of change and uncertainty. Many of the changes taking place are fundamental in nature. The ravages of the boll weevil have now been felt over the entire state, and the changes brought about by this invasion are more or less permanent. In the sections invaded first the people have become more or less accustomed to his presence and have learned to grow other crops and have learned to grow some cotton under boll weevil conditions. In the state at large, however, the losses suffered from very unfavorable seasons and from the weevil combined have reduced the cotton crop to less than half a million bales, which is less than one-third of our maximum production of three years ago.

Under these conditions agricultural research assumes added importance. When our people turn to new crops or have new pests to fight, they naturally turn to the research workers for advice and assistance. Fortunately for our people, our research workers and a few of our progressive farmers have been experimenting with various crops, fruits and vegetables, looking to the substitution of these for cotton upon the arrival of the boll weevil, and our diversification program was already well worked out. Many money crops new to this state recommended by this experiment station and our extension service are now being grown to a large extent, especially in the eastern part of the state. As a result of this, fourteen thousand carloads of fruit and truck were shipped out of South Carolina this year to northern and eastern markets.

With the introduction of these new crops on a large scale and for intensive production, new problems have arisen for the research workers. We had, of course, anticipated some of the problems and had conducted fertilizer and variety studies as well as experiments to determine the best sections of the state for growing the different new crops. The insect pests and diseases of these crops could not be studied, however, until they were present and in many cases these pests have only recently developed to dangerous proportions. Soil fertility investigations and rotation studies with reference to these crops must be conducted on a large scale, and the pests which affect them must be kept out or controlled.

The boll weevil problem itself looms large from a research standpoint. We, of course, could not make progress investigating this insect and studying methods of its control until the insect had arrived and become more or less established. In the meantime, we had followed very closely the work of the United States Department of Agriculture along this line and have recommended the practices which they have found best in the states south of us. Now that the weevil is well established and behaving more or less normally in South Carolina, we have undertaken to investigate his habits and activities with a view of working out control measures suited to our conditions. The conditions are so different in the southeast from what they are in the central south, where all of the research work has been done on the boll weevil, that it seems very necessary that we conduct much fundamental research work with this pest. There is reason to hope for more effective control measures than have yet been worked out, if the Legislature will appropriate funds for such research work.

In our changing agriculture, livestock must play an increasingly important part. This station is devoting considerable attention to experimental work with hogs and dairy cattle, forage and pasture problems. Much fundamental investigation work is needed along these lines before our livestock production practices are on a solid foundation.

The members of our research staff have responded cheerfully to the many demands made upon them and have attacked the new problems confronting our agriculture with energy and zeal that will surely bring results. Satisfactory progress has been made with almost all of the lines of investigation under way. A short summary of the accomplishments along the several lines is given below, and a list of the problems now being investigated will be found at the end of this report.

EXPERIMENTS WITH CROPS

About sixty percent of the total value of the farm products in South Carolina is produced by ten of our principal field crops. This value in 1921 was $120,000,000.00. Of this amount, more than half still comes from lint cotton. Our cotton production has probably reached its mimimum, so we have every reason to expect that the larger share of our income will always be from what are termed our common field crops. Successful farming with us, therefore, is largely a matter of economic crop production.

There are many factors involved in economic crop production. The most important of these is the productive capacity of the soil as affected by crop rotations, soil building crops, winter cover crops, the judicious use of fertilizers, better terraces, and better drainage. Other important factors are more productive and better strains of crops and better tillage methods and cultural practices.

Probably, the most important factor in crop production at this time is the improvement of our soils to the point where cotton can be pro-

duced profitably under boll weevil conditions. It seems that poisoning the boll weevil will be a necessary practice in cotton production in the future. Research work along this line indicates that it is not profitable to poison the weevil and therefore not profitable to grow cotton under boll weevil conditions on land which without weevil injury would not make half a bale of cotton per acre. More than half of the land ordinarily planted in cotton in this state is too poor to grow cotton profitably under boll weevil conditions.

The factors influencing soil improvement and increased crop production are being investigated by the Research Department of Clemson College and by the experiment stations and our experiments have already demonstrated methods of soil building which increase the average yields per acre from seventy-five to one hundred percent. These experiments have also proved that the yields of our field crops can be increased from fifteen to fifty per cent by the use of the best seed of the better varieties, and have demonstrated cultural practices and methods of farm management which are leading to more profitable production.

EXPERIMENTS WITH FERTILIZERS.

Since South Carolina expends annually from twenty-five to fifty million dollars for fertilizers, it is but natural that the fertilizer problem should loom large before our farmers, and that the South Carolina Experiment Station should devote a large share of its energy towards determining the most judicious use of fertilizers. The practices now in vogue in this state are quite largely based on the results secured from our experiments during the past years. With our changing agriculture, however, our fertilizer practices are of necessity changing. Fertilizing cotton under boll weevil conditions is quite a different problem from growing and fertilizing this crop where the weevil is not present. Experiments conducted at our stations and on selected farms in different sections of the state indicate that the best crops of cotton were secured from a reasonable application of acid phosphate and ammonia, and from a well balanced complete fertilizer which does not run high in any one element. Nitrogen has increased earliness and yield when applied in quickly available form early in the season. During the past season side applications of nitrate of soda made as late as June 15 increased the yield.

New crops are assuming importance and their fertilizer needs must be studied. We have undertaken experiments with peaches, Irish potatoes, lettuce, and sweet potatoes in different sections of the state, and have long time tests under way, some of which are already yielding valuable data. With Irish potatoes for instance, organic nitrogen has given better yields than where the same amount of nitrogen was applied in inorganic form.

Cover crops and rotations when studied in connection with fertilizers are giving valuable data. In one instance we secured 40 bushels of

corn following corn and velvet beans, while the adjoining plot following cotton made with the same fertilizer only 15 bushels. Some of our experiments show that a good rotation increases the yield of cotton and corn as much as one thousand pounds of an 8-4-4 per acre. In a three-year rotation at the Pee Dee Station we have maintained the fertility of the soil for eight years without adding one pound of fertilizer. It is along these lines that we are now directing our experiments with the view of determining methods by which our fertilizer investment will yield the highest return.

EXPERIMENTS WITH BEEF CATTLE AND HOGS.

While beef is the chief human food produced on three-fourths of the total land area of the United States, beef cattle are being produced on only sixteen per cent of the farms in South Carolina. In this respect this state ranks thirty-fifth in comparison with the other states of the Union.

We doubt if beef cattle can be produced profitably on our improved lands which are well adapted for the production of crops. There is, however, no question but that our waste lands, such as the cut over pine lands and the bottom lands along our streams, which overflow too frequently to make it profitable to cultivate them, can be utilized to a large extent in beef cattle production. It is also evident that a great deal of the roughage, such as corn stover and rough hay produced on the average farm, can be utilized largely in wintering cattle where summer pastures are available. It is along these lines that our experiments in beef cattle production are being conducted.

At our Coast Experiment Station we are making very extensive tests with different methods of seeding cut over land to pasture grass, and are testing the value of different kinds of grasses and clovers in making pastures.

At Clemson we are making tests on our overflow lands along the Seneca River both in the production of hay and pasture, and are studying the relative economy of different concentrates in fattening beef cattle. In a test completed during this year we tested the comparative value of corn, rice meal and velvet beans when used with corn silage and cotton seed meal to balance the ration of beef cattle. The greatest gain per day (2.27 lbs.) was made with shelled corn and cotton seed meal, but the cost per hundred pounds gain was also greatest ($13.57) in this case, and while the smallest gain (1.96 lbs.) per day was made with whole velvet beans as the sole concentrate, this gain was much cheaper ($10.63) per hundred pounds than in the case of any other feed. These results were published in bulletin No. 214 of the South Carolina Experiment Station. During the coming winter tests will be made to determine the comparative value of different feeds in wintering beef cattle.

Pork production is one of the most profitable lines of livestock endeavor, and many farmers are turning to hog raising as a means of

adding to their income. There are at present more than a million hogs in South Carolina, and the number is gradually increasing as diversification becomes more general.

This experiment station has for several years conducted feeding tests with various combinations of different kinds of feed, and forage, and acting upon advice based upon such experiments, many farmers have changed from the dry lot feeding of hogs to the free use of forage crops, thereby saving at least one-third of the grain ration. They have also learned from these experiments to supplement corn with tankage and fish meal, in this way balancing the ration and producing more rapid and more economical gains.

At the Pee Dee Station in tests now under way, we are hogging off peanuts alone, peanuts plus 2 percent ration of corn, peanuts and sweet potatoes, sweet potatoes alone, sweet potatoes supplemented with tankage, corn alone, corn and tankage, corn and velvet beans, and corn and velvet beans grown together and supplemented with tankage. Preliminary results from these tests indicate that neither peanuts nor sweet potatoes are as profitable under present conditions when hogged off as when harvested and sold. Rape, soybeans, and rye have proved in our experiments to be good forage crops for hogs, one acre of soybeans in a recent test making 400 pounds of pork. Preliminary feeding tests with pigs already reported in our bulletin No. 213 show that the greatest gains were made with Red Dog Flour used as a supplement to corn and tankage, but the cheapest gains were made when wheat middlings were used as the supplement.

PLANT DISEASES.

The Botany Division continues to investigate various diseases of plants which are prevalent and destructive in this state. Fungus and bacterial diseases of plants take a much larger toll of our crops each year than is commonly realized. Last year the Plant Disease Survey's report of the United States Department of Agriculture compiled in cooperation with this office, showed that the loss caused by plant disease in South Carolina to the seven major field crops amounted to more than $20,000,000.00. This is more than three times the total amount appropriated by our Legislature for all purposes, and four hundred times the amount appropriated for agricultural research. These destructive diseases of plants, like the diseases of animals and of man, yield readily to scientific treatment when the causes are known and the habits and behavior of the organisms which cause them are understood. As a result of the research work of this division, cotton anthracnose, a fungus boll rot of cotton, angular leaf spot and other bacterial diseases of cotton which formerly caused from three to five million dollars loss each year in South Carolina, have been eliminated from the majority of the fields of the state and their ravages greatly reduced throughout the entire south. Other destructive diseases are being

taken up an investigated in a similar way and control measures worked out as rapidly as our time and facilities permit.

Aside from the fundamental research work referred to above, this division maintains a plant disease survey of the state. In this way, the prevalence of the various diseases is determined each year, the data secured serving as a basis for planning campaigns for disease control. In this survey reports are made on 131 different diseases of crops, fruits and vegetables.

BACTERIAL CONTENT OF MILK

The associate bacteriologist of the station continues to study the bacterial content of milk with a view of determining the behavior and development of bacteria during the different periods of handling milk from the time it is milked until it reaches the consumer. The dairymen of the South are concerned chiefly with the furnishing of whole milk to the nearby markets, and this project was undertaken with a view of determining practices and methods of handling milk which would keep down the bacterial content.

A careful study has been made of the so-called germicidal property of milk and the bacterial development during the first two to four hours after milking. The data secured this year agrees with results reported last year, and show that where the initial bacterial content of the milk is low there is no marked increase in the number of bacteria during the first four hours. The bacterial content of the milk from a number of individual cows has been determined and it is found that the milk from some cows contains a much larger number of bacteria than that from others. Results so far, indicate that the initial bacterial content of Holstein milk is lower than that from Jerseys. About forty different strains of bacteria have been isolated from milk from different cows included in the project and these are being studied.

From these studies thus far, it appears that the production of certified milk is largely a matter of sterile utensils, and cleanliness in milking and handling the milk.

EXPERIMENTS WITH DAIRY CATTLE.

When there is a crisis in the agricultural development of any section where the one crop system is followed, there is always a strong tendency towards diversification. In the South, especially during the past decade, whenever we have had a period of depression, our people have turned to livestock as an additional means of maintaining their income. This was true from 1914 to 1916, and is especially true since 1920. During the present period of depression, and with the prospect of cotton production permanently handicapped by the presence of the boll weevil, our people are naturally turning to dairying. It is well that this is true, because it is estimated that we are already sending $4,000,000.00 annually out of the state for butter alone. Besides this,

we are spending additional millions for condensed milk, milk powder, and other manufactured dairy products which might be produced at home. We now have about 240,000 milk cows in South Carolina, and need about 220,000 more to meet the rural needs for milk and its products to say nothing of the needs of our towns and cities. Aside from this, the dairy cow produces a greater return upon the feed consumed than does any other animal.

This station is conducting experiments looking to the improvement of the dairy cattle of the state as well as to the better utilization of feeds which can be produced in the South. In our tests with different feeds we have found that sorghum silage is about as good as corn silage for milk cows, and is cheaper than corn; velvet beans is the cheapest concentrate we can feed to milk cows and produces no bad effect; lime when fed to dairy calves causes gain in weight and increased growth in height.

Our extensive breeding experiments testing the comparative value of line breeding and out crossing as methods of improving dairy cattle are still under way and are making progress. We now have eight promising daughters of our Jersey herd bull, Chromo's Sensation, all out of dams that have made good official records in our herd. We also have seven daughters of our Holstein herd sire, and all of these are from dams that have advanced registry records made while in our herd. It takes a long period of years to complete experiments of this kind, but the results should form the basis for definite advice to our people as to the best methods to follow in gradually building up our production from the present average of about 150 pounds of butter fat per cow to something like two or three times this amount. The average production of the 92 cows in the state that completed records under our supervision this year was 490 pounds of butter fat and 11,356 pounds of milk. One three-year old Holstein cow has completed an annual record exceeding 27,000 pounds of milk and 850 pounds of butter fat.

INSECT PESTS

Insect pests constitute an increasingly serious problem for the farmers of this state and for our people in general. The damage caused to individual crops by a single species of insect frequently amounts to millions of dollars in one season. We not only have the native pests to deal with, but insects new to our state are constantly coming from other states and countries. The Mexican bean beetle made its appearance in the western part of the state during the fall of 1921, and has invaded Oconee, Pickens, and Anderson counties. This insect attacks practically all of our beans and other legumes including cowpeas and soybeans, and unless we can devise better control methods than our neighboring states have been able to work out, this pest is going to be a serious menance to our agricultural progress.

In our fundamental research work with insects, we are endeavori

to determine the influences of seasonal and climatic factors on insect activity and behavior. Records already secured along this line enable our entomologists to foretell with considerable accuracy the outbreaks of some of our most destructive pests, thereby enabling the farmers to institute preventive measures or to be prepared to apply control measures at the proper time. Efforts are being made to correlate recurring natural phenomena with important farm operations, in order to replace as far as possible all recommendations involving dates by some such natural phenomena as blooming period of various species of plants. It has been found that insects as well as plants vary a great deal in the dates that they begin activity in the spring. It seems that in these variations plant and animal activity are pretty closely correlated. Certain farm practices, like the time for planting different crops, are now based on the activity of vegetation such as the unfolding of the leaves of certain species of trees, the bloming of some of our conspicious forest trees and shrubbery. It seems now that the recommendations as to the practices for preventing insect pests might be based upon such natural phenomena rather than fixed dates.

BOLL WEEVIL CONTROL.

The biggest outstanding problem in South Carolina today is the development of control measures which will enable us to produce cotton profitably under boll weevil conditions. The production of cotton in South Carolina has decreased from 1,600,000 bales in 1920 to about 500,000 bales in 1922, and this decrease, while partly due to weather conditions, is largely due to the boll weevil. The very existence of the chief money crop of the South is threatened, and unless satisfactory control measures can be devised so that we can produce cotton at a reasonable cost, other countries which are now learning to grow cotton will produce it cheaper than we can, and the United States will lose one of its principal sources of income. This pest has now practically covered the entire cotton belt, and the problem of controlling it confronts every section of the South.

The United States Bureau of Entomology has been at work on the boll weevil problem for 28 years, and fortunately for the states recently infested, has worked out many of the fundamental features relative to the weevil activities and reactions to different conditions. In planning our experimental work, we have attempted to profit by the large amount of research conducted by the Federal Bureau, and the other states and have undertaken to test out under our conditions the measures found most helpful in other sections.

During the season of 1922, it seemed to us that the most important thing for us to determine was whether or not calcium arsenate dust could be used with profit under South Carolina conditions, this being the control measure most strongly supported by scientific data and most generally advocated by other experiment stations and by the Federal Government. Our experience of 1921 convinced us that it was not at

all safe to conduct our investigations at one point, because the variation in weevil infestation and the occurrence of unfavorable weather conditions might interfere with the results in such a way as to make little progress possible during the entire season. We, therefore, selected five different points in the state where we conducted cooperative experimental work with farmers. In addition to this we conducted control experiments at our main station at Clemson, and at our sub-stations at Summerville and Florence, making eight places in all where these experiments were conducted. Accurate cost accounts were kept of the labor and materials used in these experiments and these compared with the increases obtained in yield of seed cotton. The gains of the dusted areas over the adjoining check which was not dusted varied from 579 pounds per acre at Darlington, and 498 pounds at Sumter, to 286 pounds at Clemson College and 185 pounds at the Pee Dee Station at Florence. Four applications were made at Florence, 5 applications at Clemson and at Sumter, and 8 applications at Darlington. The cost per application per acre varied from about 75 cents to $1.06, and the profit from use of calcium arsenate dust varied at the different places from $12.00 per acre to $60.00 per acre.

From these carefully conducted experiments in the various sections of the state this year, it is shown as conclusively as one season's results can show that calcium arsenate dust can be used with profit in any section of South Carolina. These investigations will, of course, be continued with a view of testing the effectiveness of this method under varying seasonal conditions.

As our work has developed this year, we have become more and more convinced that additional fundamental investigations need to be conducted with the boll weevil in the eastern section of the cotton belt. Many of the biological studies made by other investigators have been made further south in the warmer and more humid sections, and we feel that these do not apply in all cases to our conditions. This seems to be especially true with reference to the fall of the year, when the weevil is preparing for hibernation, and with reference to the spring and early summer, when he is emerging from hibernation. The conditions at these seasons are so entirely different in South Carolina from what they are in Louisiana and Mississippi that it seems especially important that thorough and extensive studies be made of hibernation and emergence and the effect of different field practices on these activities so as to secure a basis for further control experiments. The farm practices in South Carolina are very different from those in Mississippi and Louisiana, and studies of many features bearing upon the economical production of cotton and the relation of these to boll weevil activities must be undertaken before we can base our control measures and our plans for future agricultural development upon definite scientific information. Plans are now under way for materially enlarging research work along this line in co-operation with the Federal Government, and support is being asked from the Legislature for this purpose.

EXPERIMENTS WITH FRUITS AND VEGETABLES.

The varied soil and climatic conditions of South Carolina permit the growth of a great variety of fruits and vegetables during practically all seasons of the year. Formerly little attention was paid this particular feature of our state except, perhaps, in the matter of home-grown fruits and vegetables for home consumption. With the advent of the boll weevil and the resulting change in our agricultural practices, however, our people are undertaking the production of fruits and vegetables on a commercial scale for profit. Large commercial peach orchards are being developed, especially in the sand hill region, and along the coast trucking is rapidly becoming an important industry, while in the Piedmont region apples are an important crop.

From time to time, the South Carolina Experiment Station has conducted tests of the principal fruits and vegetables to determine the best varieties for home use and for commercial plantings. We have tested, also, a great many different plants introduced from foreign countries by the Office of Seed and Plant Introduction, of the United States Department of Agriculture. In many cases where fruits and vegetables are being grown on a commercial scale, fertilizer tests have been made and cultural practices studied. Important breeding work is being done on the Lookout Mountain potato, and we are also conducting tests with potatoes comparing certified and noncertified seed and studying the effect of source of seed on yield. Cooperative tests conducted with growers in different counties in the eastern part of the state indicate that certified seed of Irish potaoes is much more profiable than the ordinary seed stock which the grower usually buys through the seed trade. In all cases in these experiments the certified seed came up to a better stand and produced larger yields than the non-certified seed. This advantage is of course due to the added vigor which is secured by careful selection and freedom from disease, the certified seed being inspected for these qualities by state and federal inspectors before they are permitted to go on the market as certified. A circular giving this information in detail is in process of preparation.

The cooperative fertilizer experiments with peaches, conducted in the different peach growing sections of the state, are yielding interesting and valuable results. The time of applying nitrogen to the bearing trees seems to influence the ripening of the fruit, the growth of the twigs, and the production of fruit buds for the next crop.

Spraying tests with a weak Bordeaux mixture (2½-6-50) show that this spray will prevent the cherry leaf spot and insure a vigorous healthy growth of the best varieties of sour cherries and cause a crop of fruit buds to be produced every year.

THE CLEMSON COAST EXPERIMENT STATION

At the Coast Station located near Summerville on the cut-over pine lands of the lower Coastal Plain, we are conducting experiments look-

ing to the development of the two million or more acres of cut-over lands in South Carolina. Large areas of these lands are now unproductive and are producing no income for the owners or for the state. Experiments already conducted here in reclaiming these lands and utilizing them for agricultural purposes have produced results which have encouraged farmers to take up the reclaiming of some parts of this area.

Drainage is still a problem at this station which is located on land that is very flat, and is only 70 feet above sea level. Since our drainage system was repaired during 1920 and 1921 however, the careful records which have been kept on the 64 observation wells installed last year show that all of our under drains are functioning in a satisfactory manner. The wide shallow ditches which Mr. Riley constructed for taking care of the surface water, have proved very helpful since they serve to carry off the surface water and prevented this from soaking into the soil and passing out through the under drains. In this way, the water gets off more quickly and the under drainage system is not taxed to such a great extent. The Office of Drainage Investigation, of the United States Department of Agriculture has co-operated very closely with us in these drainage experiments, and has recently supplied us with additional drainage and meteorology instruments which have been installed for the purpose of securing additional data on the drainage system. About 20 acres of land cleared during the past year is now being under-drained and made ready for cultivation.

The forestry experiments which were started here eight years ago are developing satisfactorily. All species of pine which are being tested here are growing satisfactorily and much information has been secured relative to methods and time of seeding the different species. The natural reproduction studies indicate very clearly that the long leaf and lob lolly pines, so common in this section, seed themselves very abundantly where fires are kept out.

As pointed out in our last annual report, we believe that the cut-over lands of this section of the state can be used profitably in the production of beef cattle. Grazing tests which we have conducted, however, indicate that the native grasses will not stand close grazing, and will not carry a sufficient number of cattle to enable this industry to develop as it should. On the other hand, the carpet grass and Lespedeza, pastures which we are developing, are increasing the value of these lands for grazing to a marked extent. Our experiments with methods of seeding carpet grass and Lespedeza indicate that the best results can be secured by disking the land before the seed are sown. Lespedeza seems to take hold readily wherever the sod is broken so that the seedlings can get a hold, and carpet grass where given a chance takes hold readily and in the course of two years develops into a good sod. Some fertilizer tests conducted here indicate that small applications of nitrate of soda and acid phosphate hasten the development of pastures

on these poor lands very materially, and it looks now as if it is going to be profitable to use small amounts of fertilizer in getting these pastures started.

We are gradually building up a good herd of Aberdeen-Angus beef cattle for use in the experimental work at this station. We bought a splendid pure bred bull of this breed last year and the herd is increasing at a normal rate. We now have about 30 head of pure bred Angus, and about an equal number of grade cattle. These are run on carpet grass and Lespedeza pastures for about nine months in the year, and after running in the cultivated fields for about 30 days are put in the lot for the winter. We are using sorghum silage for wintering.

Good crops of both corn and cotton were produced on this station this season, and all the experiments with the field crops made satisfactory progress. In the cotton variety tests, Coker's Cleveland produced the best yield, followed very closely by Lightning Express and Dixie Triumph. The cotton in our variety tests, fertilizer tests, and rotation plots averaged about one-half bale per acre, which we consider very good for the heavy boll weevil infestation which we had. The cotton was dusted twice with calcium arsenate as a means of protection against the weevil. The spacing tests and the test with time and method of fertilizing cotton under boll weevil conditions are showing some interesting results. Close spacing seems to be the best, and the best results were obtained from side applications of fertilizer made on the 19th of June.

The location of this station near the center of the trucking district of the state makes it a desirable place for conducting some of our experiments with the principal truck crops. We have devoted particular attention this year to Irish potatoes and lettuce. Fertilizer tests with Irish potatoes showed good results could be secured with applications of a ton of 7-7-3. The organic sources of nitrate gave better results than the inorganic when applied to Irish potatoes. A very complete fertilizer test with lettuce was conducted at this station, but the results of the first year are not at all conclusive. We plan to enlarge this truck work to some extent, and have already approved projects for extensive experiments with onions and lettuce.

A hundred ton silo was erected at this station during the year, and the water tank and roofs of several of our buildings here were put in repair and painted. The fence bordering on the public highway was moved back 30 feet along the frontage of the station lands and the highway widened and improved by the State Highway Commission Two mules were purchased to replace the two old ones that were no longer serviceable. Among the larger implements added to the equipment of the station were a manure spreader, an insilage cutter, and a small tractor. On the whole, very satisfactory progress is being made at this station, and we are getting equipped now for a larger amount of better experimental work than we have been able to do here in the past.

THE CLEMSON PEE DEE EXPERIMENT STATION

The Pee Dee Station is located in the heart of the Pee Dee section on the Atlantic Coastline Railway, and on the main highway between Florence and Darlington, about two miles from Florence. The soil is fine, sandy loam, and fairly uniform throughout. The land is level, which makes it well suited for experimental work. This station was started in 1913, and since that time has conducted a great many experiments with crops and fertilizers which have served to point the way towards a better agriculture for this section of the state. The work from the outset has been largely with field crops and fertilizers, because these were the most important problems of the Pee Dee section. Many new crops have, however, been tested and a large amount of experimental work has been conducted, looking to wider diversification and better methods of growing our most promising crops.

The experimental work at this station has been conducted very much along the same lines as reported last year. In the variety studies the highest yielding varieties are much the same as previously reported. With cotton, Mexican Big Boll produced the highest yield, followed closely by Lightning Express. In the corn variety test, the yields varied from 36.2 to 50.6 bushels per acre, the highest yielding varieties being Rogers' Garrick, Pee Dee No. 5, and Coker's Garrick. Out of the 44 varieties of sweet potatoes used in our variety tests, the Porto Rico, Nancy Hall, Southern Queen, Triumph, and Yellow Strausburger stand out as being among the best.

We are still continuing breeding work with corn, cotton, sweet potatoes, velvet beans, and peanuts, and are making progress along all of these lines. A strain of Cleveland cotton, which we have been working with for several years, is giving excellent results in our tests. The peanut breeding work is also making good progress, and our No. 5 corn continues to make high yields. A selection of velvet beans which Mr. Kyzer made several years ago, yielded last year at the rate of 80 bushels per acre. The most promising strains of these varieties are being increased and will be distributed among farmers for general use in the near future.

We are duplicating at this station a large amount of the experimental work with forage crops for hogs. The work previously referred to with peanuts, sweet potatoes, and velvet beans, is conducted here and the results are checking very closely with those obtained at other places.

We have concentrated a good bit of our boll weevil work at this station. Aside from the variety studies, fertilizing tests, distance tests, methods of fertilizing and rotation tests, and other experiments having indirect bearing on boll weevil control, we have devoted considerable attention during the season of 1922 to experiments with poisons. Mr. R. W. Moreland, formerly of the Delta Laboratory of the United States Department of Agriculture, was employed early in the summer and came to the Pee Dee Station and took charge of this work. The results

of these experiments were referred to in the chapter under boll weevil control. Detailed data are being prepared for publication on this subject. In speaking of this work, Mr. Currin, our very efficient Superintendent of this station, says; "from our viewpoint, dusting with calcium arsenate properly done, will control the weevil, and we feel that cotton can be grown regardless of unusual weather conditions, provided the proper machinery is made to apply calcium arsenate dust as it should be applied."

Soil fertility and fertilizer studies have been major lines of investigation at this station since its establishment in 1913. The results of many of these tests have been published and made available for general use. A detailed report of the results on 180 tenth-acre plots used for a general comparative test of fertilizer since 1913 was published this year as bulletin No. 209. We are now conducting special fertilizer tests with sweet potatoes, cotton grown under boll weevil conditions, tobacco, peanuts, oats, Irish potatoes and peaches. A 7-7-5 has given best results for Irish potatoes when applied at the rate of a ton per acre and 8-3-6 best results for sweet potatoes when applied at the rate of 600 lbs per acre. The Pee Dee Station seems to be the logical place to make headquarters for our research work with the boll weevil, and it seems to us that the co-operative project now being planned with the United States Bureau of Entomology should be located here in the center of the rich Pee Dee section of the state.

COST OF PRODUCTION STUDIES.

There has been a great deal of discussion within the past few years as to the cost of producing crops under different conditions. When a search is made in the agricultural literature, very little reliable information is found on this subject. Hoping to secure data that would be of value along this line, we have kept accurate records of all of the operations and costs involved in producing the crops in the different fields on the experiment station farms during the past two years. On the college farm alone, we have kept such detailed records on twenty fields growing 12 different crops, and much valuable data are being secured. These records include the man hours, horse hours, and tractor hours needed for each operation, as well as the actual cost of seed, fertilizers, and miscellaneous supplies. Record is also kept of the number of days each mule works during the year, so as to arrive at the cost of horse-power.

During the fall of 1921, and again in the summer of 1922, Mr. W. C. Jensen, of the Agronomy Division, has conducted farm surveys in different sections of the state collecting data on cost of production. Much valuable information has in this way been secured with reference to the practices in vogue and the comparative cost of producing the different crops in different sections of the state. As a means of enlarging this line of work at the last annual meeting of the Board of Trustees, in July, the position of assistant in farm economics was estab-

lished with the view of securing a trained man to continue the research work in farm management and rural economics. The United States Department of Agriculture is co-operating with us in the undertaking, and will pay half of the salary and expenses of this position. This is one of the most important lines of work we have undertaken in recent years, and we are expecting very beneficial results from it.

LIBRARY.

A complete agricultural library is a very necessary adjunct to any organization for agricultural research. Fundamental research can be conducted satisfactorily only when the workers have ready access to all of the published information on any problem that engages their attention. This is the third year that we have had a trained librarian engaged in classifying and cataloging the large amount of valuable material which we have accumulated during the past 30 years. Practically all of this material is now available for use by our workers, and this has added greatly to the efficiency of the entire staff.

The librarian's annual report shows books accessioned and made ready for the shelves 758, volumes bound 172; volumes in temporary binders, 250, volumes collated for binding 172. The above does not include the routine work of checking and making accessible 1487 copies of bulletins and 3607 copies of agricultural journals, besides 12,735 pieces of minor mail, consisting largely of circular material on agriculture.

With improved provisions for agricultural reading and reference work, the library is being used more and more by teachers, research workers, extension workers, and students. The libarian's report shows a total of 4996 "readers," 3700 of which were students, and 1296 of which were faculty. Those classified as "faculty" include, of course, teachers, research workers, and extension workers.

PUBLICATIONS.

With the changing conditions in our agriculture, there is a greatly increased and increasing demand for publications showing the results of experiment station research. Our station publications are therefore in greater demand and seem to be more highly appreciated than ever before, and the distribution of the publications of this fiscal year has been noticeably greater than in former years. The result has been a rapid decrease of our supplies, many numbers being completely exhausted.

The mailing list now contains more than 5000 names, mostly South Carolina farmers, and we are adding to this every day. The list is classified so that publications are issued only to those who have asked for the class of material to which a given publication belongs. In this way waste of publications is largely prevented. All publications are sent to every one who requests them.

Six publications were issued during the fiscal year as given below:
Bulletin 207, "Variety Tests With Corn."
Bulletin 208, "Analysis of Commercial Fertilizers."
Bulletin 209, "Fertilizer Experiments."
Bulletin 210, "Some Phases of Breeding Work and Seed Production of Irish Potatoes."
Bulletin 211, "Fertilizer Experiments with Cotton at Clemson College."
Thirty-fourth Annual Report for Year ended June 30, 1921.
Besides these regular publications a number of articles have been published in scientific journals and periodicals and many news articles have been prepared for the Weekly News Notes and the press of the state.

PROJECTS UNDER WAY

The following is a list of projects now under way in the Research Department:

Agronomy Division.

A study of the inheritance of barrenness in corn.
Inheritance in oats.
Effects of companion crops on corn.
Factors influencing oil content of cotton seed.
Effects of soil stirring on moisture, nitrification, yield, etc.
General fertilizer tests.
Comparative value of different legumes in rotations.
Comparative tests of sources of phosphorus.
Comparative tests of sources of nitrogen.
Comparative tests of sources of potash.
Tests of sources of ammonia for top-dressing cotton.
Tests of methods of applying fertilizers.
Tests of theoretically correct fertilizer formulas.
Cooperative fertilizer experiments, cotton, corn, oats, peas, etc.,
Corn culture tests.
Cotton spacing and culture tests
Corn and cotton two-year rotation.
Breeding work with cotton (general).
Breeding cotton (Cooke).
Breeding peanuts.
Breeding barley.
Breeding wheat.
Breeding corn.
Sorghum variety tests.
Oat variety tests.
Cowpea variety tests.
Soybean variety tests.
Velvet bean variety tests.
Wheat variety tests.

Peanut variety tests.
Corn variety tests.
Cotton variety tests.

Animal Husbandry Division.

Comparison of forage crops in pork production.
Comparative tests of peanuts, sweet potatoes and corn for pork production.
A study of the effects of velvet beans on pregnant sows.
A comparison of protein feeds for pigs.
Cost of producing hogs.
Permanent pasture experiments.
Soft pork investigations.
Bur clover and Bermuda vs. dry lots for growing gilts.
Pig feeding experiments.
Cattle feeding experiments.
Horse and mule breeding experiments.
Value of different feeds in wintering cattle.

Botany Division.

Plant disease survey of South Carolina.
Cotton anthracnose investigations.
A study of cotton root diseases.
Bacterial diseases of cotton.
A study of the bacterial content of milk.
Forestry plantings.

Dairy Division.

Economic concentrates to supplement cotton seed meal for dairy cows.
Corn silage vs. sorghum silage.
Cost of raising dairy calves.
Line-breeding and out-crossing as systems of breeding.
Line-breeding of Holsteins.
Advanced register testing of dairy cows.
Feeding mineral salts to cows and calves.
The value of velvet beans in the ration of dairy cows.

Entomology Division.

Cotton boll weevil control by dusting with calcium arsenate.
Temperature-moisture in relation to insect activity.
Cotton root louse studies.
The slender wireworm and its control.
Control of peach tree borers.
Factors affecting boll weevil hibernation.
South Carolina honey flows.
Winter packing of bees.
The value of aluminum honey comb.

Horticulture Division.

Nitrate of soda test on bearing peach trees.
Control of cherry leaf spot.
Fertilizer test on young and bearing peach trees.
Variety tests with apples and grapes.
Methods of pruning bunch grapes.
Test of sources of Irish potato seed.
Fertilizer tests of Irish potatoes.
Fertilizer tests of lettuce.
Comparison of certified and non-certified potato seed.
Breeding work on Lookout Mountain potatoes.
Sweet potato investigations.

Respectfully submitted,

H. W. Barre,
Director of Research.

Report of the Director of Extension

Dr. W. M. Riggs, President, Clemson Agricultural College,

Clemson College, South Carolina.

Dear Sir:

Following is our report of extension work for the fiscal year ending June 30, 1922.

The period of depression growing out of war conditions that came upon the people in the late spring of 1920 continued during the fiscal year of 1921-1922, and unfortunately, at the same time the presence of the boll weevil covering practically the entire state with exceedingly unfavorable weather conditions, has caused our people to produce the smallest cotton crop since 1901, when the state produced 730,000 bales as against 770,000 bales in 1921. It is interesting to note that in the former year farmers purchased 327,000 tons of fertilizer and the latter year 671,000 tons. Owing to the difference in price, it required 14 percent of the cotton crop to pay for fertilizer in 1901, and 34 percent in 1921. A great many of our people have faced and are facing financial ruin; however, it should be understood that many are financially ruined on account of over-investment in high priced lands and following an unwise leadership in holding cotton, for the man today who is in the best circumstances is the one who sold cotton after it had reached a reasonably profitable price and the one who did not make investments in high priced farm lands. This fact should be emphasized for it was not altogether the breaking down of our agricultural system that brought ruin and demoralization but the speculative spirit in human nature. Those who pursued the wise and prudent course weathered the storm and will readjust their affairs to present conditions, and ultimately will be more prosperous than at any time in the past.

This statement is made in the light of the tremendous advancement of agriculture within the State in the last quarter of a century. We have increased our yields per acre in South Carolina of all our staple crops over 85 percent. For instance, twenty years ago the average yield of corn per acre in South Carolina was 11 bushels, in 1920, 19 bushels; the average yield of cotton, 137 pounds of lint, in 1920, 247 pounds of lint; the average yield of oats was 13 bushels, in 1920, 24 bushels; the average yield of wheat was 5 bushels, in 1920, 12 bushels. These yields can be increased by 75 percent within the next decade for the principle of soil building with many leguminous crops was unknown twenty-five years ago and we were more or less ignorant as to the intelligent use of commercial fertilizers. Also, the agriculture of the state made progress in other ways too numerous to mention in this

brief space. During the period of inflation when cotton was selling at 40 cents per pound the Extension Service was more or less ignored by the people, but since the presence of the weevil and the period of deflation has set in, the demand for service has been greater than at any time in the history of the Extension Service. It is impossible to meet all the demands, but the efficient work performed by the Extension forces was reflected in the attitude of the members of the last Legislature when every county in the state except two made the necessary appropriation for county agent work, and there was no opposition to the state appropriation.

While the attitude of the public is more favorably disposed to the Extension Service than at any time since my connection with it, I am not unmindful of the fact that the failure this year of a crop from any cause can quickly bring about a sentiment on the part of the people to eliminate many governmental agencies, regardless of their services; however, the policy of wisdom is to so serve the people that they will feel the Extension Service is absolutely indispensable. To this end we are bending every energy. It is with great pleasure I can make the statement that the enthusiasm and interest and the general esprit de corp of the force has never been more earnest. It is a splendid body of young men.

2. The "High Spots" of the Year's Work.

The decline in the prices of farm products while necessary as a sequel to war-time prices, served to draw the attention of the farmers to one of the weakest links in agriculture—that is, the wasteful, unbusiness-like, system of marketing and distribution of farm crops. During the past year two successful campaigns for organization of cooperative marketing associations have been completed with a view to bringing about a more economical marketing of our tobacco and cotton crops. These campaigns were largely brought about and carried through the educational work and organizations activities of the Extension Service and this work constitutes the most important and far-reaching single line of work which the Extension Service has engaged in during the year. The success of these campaigns brings to a conclusion definite pieces of work which the General Assembly of South Carolina by resolution directed the Extension Service to undertake.

Much work has been done in the way of instructing truck growers how to grade, pack and ship truck crops. A great many county organizations have been brought into existence for the purpose of promoting a profitable trucking industry. Eventually these local associations will be federated into a state association. In this connection, it is interesting to quote from a report from Mr. F. L. Harkey, our marketing agent, who visited Florida to secure, for temporary purposes, four additional men to demonstrate grading, standardizing and packing truck crops.

"I am writing you to say that we have been successful in putting across Cucumber Grading in South Carolina. Through our influence, around forty-five experienced grades were brought into this State

from the State of Florida to help put across the South Carolina Grades for cucumbers.

"We have stressed the idea of community grading from the very beginning and have told the growers that they could not put up a standard grade unless they would meet at a common packing shed. As a result practically all of the crop has been graded at packing sheds on the railroads. Some of these sheds have been built by the growers and others have been turned over to the growers by the railroads. The South Carolina Produce Association has built a large shed and has installed six grading belts and is grading at packing sheds at Meggetts and Yonges Island. The Blackville Cooperators Packing and Marketing Association has installed a large shed at Blackville and is enploying a number of graders. Packing sheds have been turned over to the shippers at Bamberg, Olar, Denmark, Elko, Williston, Barnwell, Allendale, Kline, Dunbarton, Fairfax, Rowesville, Springfiield, Orangeburg, Hilda and a number of other points that I cannot remember at present. Two of our marketing men and myself have been carrying on grading demonstrations at a dozen or more points not mentioned. Our work has been well received and is very much appreciated.

"An instance of what happened in Blackville is repeated below:

"Mr. W. A. Fickling, president of one of the Banks at Blackville, stated that by grading his first lot of cucumbers, which amounted to 104 hampers, that he made a net profit of $30.00 over and above what he would have made if he had sold them on the street ungraded. In other words, he paid his interest in the packing shed which was $25.00 out of his profit from the first sale and had $5.00 left. Many examples of such could be given."

The sweet potato industry has been more thoroughly organized and definite policies for its development adopted and promulgated. A comprehensive bulletin on this subject has been published recently.

In Boys' Club Work the individual plan of conducting this work has been abandoned in favor of the community plan by which the boys have an organization of their own. They elect their own officers, hold meetings, carry through programs, etc., thus obtaining much better results in club work than heretofore.

In connection with the boll weevil invasion we had a campaign last fall to bring to the attention of the farmers the desirability of the fall plowing under of stalks, the sowing of soil-improving crops, etc. This campaign has been continued this spring to cover such factors as preparation, varieties, fertilizers, cultivation, etc. In addition to this, six poisoning demonstrations have been arranged and a specialist from the Department of Agriculture Laboratory at Tallulah, Louisiana, secured to supervise this work with a view to developing some reliable information regarding poisoning the boll weevil with calcium arsenate. Heretofore we have not had sufficient data under South Carolina conditions upon which to base a recommendation regarding poisoning.

The Extension Organization performs a service in advising to leave undone those things which should be left undone. This kind of service

is generally overlooked, notwithstanding thousands of dollars are saved the farmers and business men, as for instance, during the year a number of creamery organizations have postponed building and purchase of machinery following a survey and recommendations by dairy specialists. Grain elevators have been discouraged in several cases. The purchase of boll weevil traps has been pointed out as a waste of money. The construction of special patented sweet potato houses has been prevented and the standard plans which are not patened, adherred to, not only at a saving in price but at the same time giving better curing houses. We have discouraged the National Farm Bureau Federation from attempting to organize South Carolina this year on account of the state of mind of our people and the attitude they take toward organizations at the present. Also, we realized that for another farm organization to enter the field would bring on friction with the Cotton Association and might split our farmers into two camps. This, we believe, would be unfortunate.

The change in the organization of the Washington office has made advisable some changes in the methods within the state. We now require monthly reports instead of weekly and find the system in that respect much more satisfactory. The plan of districting the specialists to save railway expense and allow more time in the field, which plan was inaugurated during the year, seems, so far, to obtain the desired result. A further study and recommendation on this matter will be made later.

3. New Lines of Work Undertaken During the Year.

No new lines other than marketing and boll weevil work referred to above have been undertaken.

4. New Lines Contemplated During 1922-1923.

We have provided in the budget funds to employ a specialist in the growing and handling of tobacco, also one in the growing and handling of peanuts and soy beans. Under boll weevil conditions the tobacco crop in South Carolina must of necessity play a greater part in our agriculture than heretofore, especially in the Pee Dee section of the state, where tobacco has grown for the last twenty-years, but largely as a side issue, cotton being the main crop. For this reason we are not able to grow tobacco as successfully and as profitably as the farmers in Virginia and North Carolina as evidenced by the fact that North Carolina and Virginia averaged over 20 cents a pound for last year's crop and South Carolina a little over 6 cents. Peanuts and soy beans are beginning to attract considerable attention; the farmers in the Savannah Valley section of the state are especially interested in these crops, but as they have never been grown to any extent in the state, it is very necessary to secure a specialist who has a large knowledge of the practical growing of these crops. North Carolina is the largest producer of soy beans in the United States and doing so at a considerable profit. Soy beans should be encouraged in South Carolina.

PROJECT NO. 2.—PRINTING AND DISTRIBUTION OF PUBLICATIONS.

During the fiscal year six Extension bulletins, nine circulars and three information cards, and six posters have been published, 110 news letters and six columns of free plate matter have been furnished to the newspapers for publication. The Weekly News Notes has been issued each week for 52 weeks, and many special articles have been prepared for newspapers and farm journals circulating in South Carolina. The annual report for the calendar year 1922 will be published early in 1923.

The distribution of publications has been, as formerly, through regular mailing lists, through county agents and specialists, and through answers to individual requests for information. The distribution for the year averaged around 10,000 copies of publications per month, the highest being 16,301, in June, 1922.

PROJECT NO. 3.—COUNTY AGENTS

Any statistical report of results of County Agent work must necessarily be based on the crop for calendar year. The following results are taken from the County Agent's reports for the calendar year 1921:

County Organizations—

Number of community clubs organized, 56; membership, 1802;
Number of community clubs in counties, 160; membership, 7334.

Cooperative Buying and Selling—

Value of stuff bought and sold cooperatively, $628,951.65.
Saved by buying and selling cooperatively, $71,820.83.
Number of agents keeping bulletin boards, 11.
Number of agents using Market News Service, 30.

Crops.	Dems.	Acreage	Average
No. of corn demonstrators	827	13,159	40 bu.
No. of cotton demonstrators	970	23,515	920 lbs.
No. of tobacco demonstrators	68	450	828 lbs.
No. of tomato demonstrators	41	80	140 bu.
No. of oats demonstrators	538	7,348	40 bu.
No. of wheat demonstrators	244	1,959	16 bu.
No. of rye demonstrators	661	4,069	17 bu.
No. of Alfalfa demonstrators	299	1,120	3.5 tons.
No. of vetch demonstrators	370	2,520	2.3 tons.
No. of Crimson clover demonstrators	721	4,670	1.7 tons.
No. of hay crop demonstrators	271	2,214	2.4 tons.
No. of summer legume demonstrators	1535	24,694	
No. of Irish potato demonstrators	148	832	102 bu.
No. of sweet potato demonstrators	556	2,418	153 bu.
Totals	7,249	89,048	

* Under hay crops in the above table are included Bur Clover, sweet clover, red clover, Dwarf Essex rape, Lespedeza, Soudan grass, sorghum, peas, Alsike, and peas broadcast.

Number of farmers agent has influenced to select seed for next year's crop, 1798. (corn).

Estimated amount of seed corn selected, 8160 bushels.

Number of farmers directly influenced to use better methods in growing corn, 4353.

Number of farmers induced to test corn for germination, 165.

Number of demonstrators who planted pure or selected cotton seed, 1296.

Acreage planted, 31,972.

Number of farmers induced to field select seed for next year's crop, 1687.

Number of farmers directly influenced to use better methods in growing cotton this year, 6381.

Number of farmers directly influenced to use better methods in growing tobacco this year, 125.

Number of bushels of seed treated for smut, rust, etc., oats, 14,615; wheat, 13,626; rye, (Altman) 400, (Baxter) 8, (Wood) 80.

Number of farmers directly influenced to use better methods in growing oats, 1878; wheat, 2589; rye, 1024.

Estimated total number of acres of crimson clover, oats, or rye, turned under by agent's advice.

Estimated increased acreage in Irish potatoes due to agent's work, 341.

Number of farmers directly influenced to use better methods in growing sweet potatoes this year, 2117.

Orchards.	No. of orchards.	No. of trees.
Demonstration home orchards	688	62,523
Inspected	1541	104,450
Pruned, sprayed or treated for borers, due to agent's influence	2600	160,224
Planted due to agent's influence	854	108,315
Totals	5683	435,512
Commercial orchards—agent assisted in caring for, 60.		
Agent personally sprayed		25,340
Pruned		29,398
Wormed		9,091
Total		63,829

Horses—

Number of purebred stallions and jacks brought in this year due to agent's influence, Stallions, 3; jacks, 3.

Breed mares brought in due to agent's influence, 19.

Dairy Cattle—

Number of purebreds brought in—Bulls, 116; cows or heifers, 274.

Number of purebreds sold with agent's help—through individual sales, 157; through group sales, 79.

157; through group sales, 79.
Number of grade cows brought in for breeding purposes, 639.

Beef Cattle —
Number of purebreds brought in this year due to agent's influence—
Bulls, 28; cows or heifers, 89.
Number of purebred beef cattle sold with agent's help—Through individual sales, 154; through group sales, 0.
Number of grade cows brought in for breeding purposes, 95.
Number of beef breeding herds started, 36.
Number of beef feeding demonstrations supervised by agents, 14.
Number of cattle in these demonstrations, 715.

Hogs—
Number of purebreds brought in this year due to agent's influence—
Boars, 367; sows or gilts, 1118.
Number of purebred hogs sold with agent's help—through individual and group sales, 1695.
Number of farmers induced to start growing of grazing crops—for hogs, 1625.
Number of self-feeders put in at agent's suggestion, 76.

Sheep—
Number of purebred rams brought in this year due to agent's influence, 11; number of ewes, 37.

Poultry—
Number of farms on which poultry management has been improved as a result of agent's work, 711.

Live Stock Diseases and Pests—
Number of head of stock farmers have been induced to treat by agent or other extension worker:
Cattle treated for: Blackleg, 2774; tuberculosis, 6561; digestive and other troubles, 894; hemorraghic speticemia, 91.
Hogs treated for: Cholera(single treatment), 1,826; worms, 9,583; cholera (simultaneous treatment), 35,095; lice, 21,654.
Sheep treated for: Stomach worms, 35.
Horses treated for: Distemper, 14; accidents, 7; other troubles, 115.
Stock personally treated or tested: Blackleg, 2,237; tuberculosis, 1,297: hemorraghic septicemia, 91.
Hogs: Cholera, 12,511.

Fertilizers—
Number of farmers advised concerning the use of fertilizers, 11,992.
Number of fertilizer demonstrations with farmers, 314.
Acreage in these demonstrations * 2,107.
Communities influenced to buy cooperatively, 84.
Quantity bought cooperatively, (tons), 7,325.

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* Amount of fertilizer used on demonstrations, (tons), 3,180.

Number of farmers home mixing on agent's advice, 5,263.
Estimated saving per ton to farmers, $4.70.

Amount paid for fertilizer bought cooperatively, $196,092.
Total amount saved by cooperative purchases, $38,277.

Manure—

Number of farmers induced to take better care of farm manure, 1,313.
Number of farmers providing sheds by agent's advice, 186.
Number composting farm manure and waste products, 4,421.
Number of manure spreaders placed this year, 27

Silos—

Number built this year,37.

Lime—

Number of farmers using lime at agent's advice, 1,571.
Quantity used—Burned lime, (tons), 46.5; limestone or equivalent, (tons), 4,970.
Number of farms on which soil was tested for acidity, 607.

Farm and Farmstead Improvements—

Work done with advice and help of agents and other extension workers:

Number of buildings erected	244
Number of farm buildings improved	334
Number of new building plans furnished	205
Number of farm buildings painted or whitewashed	323
Number of home water systems installed or improved	87
Number of home lighting systems installed this year	82
Number of home grounds improved	300
Number of farm and home sanitary conditions improved	607
Number of homes screened against flies and mosquitoes	773
Number of telephones installed	13
Number of farmers furnished plans and induced to adopt systematic crop rotations	1,820
Total acreage of such rotations	55,779
Number of new pastures established	407
Acreage	5,054
Number of old pastures renovated	214
Acreage	6,307
Number of drainage systems established	20
Number of farmers induced to drain all parts of their farms	282
Number of such acres drained by tile	1,790
Number of such acres drained by ditch	10,024

Number of farmers induced to remove stumps, 397; acreage, 6,528
Number of farmers who planted cover crops to be turned under 8,990
Number of new implements bought: Binders, haypresses, gas engines, 2-horse cultivators, tractors, motor trucks corn planters, mowers, grain drills, disk harrows, 1-horse cultivators, plows, hay

loaders, hay rakes, ensilage cutters, cream separators, spraying machines, manure spreaders, ... 2,873
Small tools 4,327

Miscellaneous Extension Work—

Number of visits by agent to: Demonstrators, Cooperators, other farmers, business men, boy's and girls' club members, ...48,581
Number of miles traveled, railroad 25,533
Number of miles traveled—team, 700; automobile, 274,358; otherwise, 839 ..... Total, 301,430
Calls on agent relative to work at office at home: personal, 32,474
telephone 15,698
Number of farmers' meetings held under auspices of agent or Extension Service 1,997
Number of meetings addressed by agent 1,879
Attendance 97,093
Number of field meetings held by agent 530
Attendance 16,508
Percentage of time spent in office 22.7
Percentage of time spent in field work 77.3
Number of official letters written 28,677
Number of articles relative to work written for publication,..... 2,095
Number of different circular letters sent out 656
Total number of copies of such letters 121,769
Number of U. S. Dept. of Agri. bulletins mailed 16,709
Number of Clemson College bulletins mailed 14,954
Number of Extension schools or short courses assisted 19
Total attendance at these schools 2,871
Number of boys attending agricultural or other schools or colleges as a result of club work 124
Number of demonstrators, cooperators, and club members having exhibits at fairs 857
Number of these winning prizes 582
Number of account books distributed to farmers 928
Number of farmers keeping cost records at agents advice—complete, 191; partial, 690, total 881
Number of farmers who began to keep bees at agent's suggestion, 222
Number of hives 753
Number of farmers influenced to grow sugar cane or sorghum for syrup 6,936

Assistance rendered in the purchase and sale of farm seed:

	Improved seed secured		Offered for sale	
Crop	Farms	Bushels	Farms	Bushels
Corn	659	1,689	231	17,105
Cotton 1931		10,762	1,386	10,585
Oats	544	8,071	444	81,420
Irish and sweet potatoes.....	349	9,478	221	26,395
Wheat and Rye	699	3,121	39	1,068

Susseccful Undertakings by County Agents—

Allendale County: Z. D. Robertson, County Agent.
Cooperative Marketing Association for Watermelons.
Cooperative Marketing of Farm Crops.

Bamberg County: J. D. Brandon, County Agent.
Community fairs.
Getting a farm program adopted.
Sweet potato curing houses built.

Barnwell County: H. G. Boylston, County Agent.
Grading and standardization of truck crops.
Community breeding of cotton.
Organization for cooperative marketing.

Beaufort County: C. L. Baxter, County Agent.
Promotion of the use of purebred sires.

Berkeley County: L. L. McLendon, County Agent.
Organization of community clubs.
Orchard campaign and cooperative purchase of fruit trees.

Cherokee County: S. C. Stribling, County Agent.
Education in soil building.
Club work.

Chester County: K. K. Sanders, County Agent.
Six community clubs organized.
Campaign for vetch, crimson clover and small grains.

Chesterfield County: W. J. Tiller, County Agent.
(1) Cooperative purchase of large quantities of clover, vetch and rye seed for soil building purpores.

Clarendon County: W. R. Gray, County Agent.
(1) Sweet potato curing houses built.
(2) Secured large acreages in winter cover crops.

Colleton County: H. M. Kinsey, County Agent.
(1) Establishment of winter grading system for swine.
(2) Cooperative buying and selling of farm products.
(3) Boys' pig and corn club work.

Darlington County: A. H. Ward, County Agent.
(1) Ten thousand acres of velvet beans worth in value and soil fertility, $100,000.
(2) Boll weevil campaign resulting in a large percentage of farmers plowing under stalks, etc.
(3) This county leads the State in the campaign for cooperative marketing.

Dillon County: S. W. Epps, County Agent.
(1) Community Organization.
(2) Orchard week resulting in 37 new home orchards.
(3) Another block added to our bull association.

Dorchester County: T. B. Brandon, County Agent.
(1) Checked nine outbreaks of hog cholera, treating 2000 hogs.
(2) Cooperative purchase of fruit trees.

Edgefield County: A. B. Carwile, County Agent.
(1) Six sweet potato curing houses.
Fairfield County: R. H. Lemmon, County Agent.
(1) Promotion of purebred sires (35 purebred bulls in the county).
(2) Cooperative purchase of fertilizer.
(3) A large increase in the use of pure seed of best varieties.
Florence County: J. Ward McLendon, County Agent.
(1) Promotion of dairy industry.
(2) Cooperative selling of Irish potatoes (22 farmers) and purchase of supplies.
Georgetown County: M. M. McCord, County Agent.
(1) Home orchard work and cooperative purchase of trees.
(2) Soil building work by use of cover crops.
Greenville County: A. H. Chapman, County Agent.
(1) A successful County Fair.
(2) Three hundred and fifty farmers growing crimson clover for first time. Thirty tons of seed purchased cooperatively at a saving of $1200.
Greenwood County: L. B. Altman, County Agent.
(1) A "Potato School" resulting in 74 farmers growing and storing sweet potatoes.
(2) A "Corn Show" at Piedmont Fair, eighty entries.
(3) Seven silos and six dairy barns built.
Lancaster County: W. F. Howell, County Agent.
(1) The cooperative purchase and sale of farm commodities.
(2) Soil building work with cover crops.
(3) Crop improvement through the use of better seed.
(4) Livestock improvement (60 purebred bulls in county).
Lee County: J. P. Quinerly, County Agent.
(1) Velvet Bean Campaign (3500 acres increase in acreage)
(2) Boll Weevil Campaign.
Lexington County: J. W. Shealy, County Agent.
(1) Community Fairs.
(2) Boys' Club Work.
(3) Live at Home campaign.
Marion County: Colin McLaurin, County Agent.
(1) A sweet potato curing house.
(2) Commercial orcharding started.
(3) Boys' Clubs.
Anderson County: S. M. Byars, County Agent.
(1) Standardization of varieties of cotton.
(2) Beekeeping promoted, and beekeepers association organized.
(3) Assisted with County Fair which was a great success.
Newberry County: T. M. Mills, County Agent.
(1) Secured adoption of a farm program.
(2) A 5200 bushel sweet potato house built.
(3) A bull association organized.

Oconee County: Geo. Briggs, County Agent.

(1) Orchard work.
(2) Boys' Club Work.
(3) Increased acreage in summer legumes and winter cover crops.

Pickens County: T. A. Bowen, County Agent.

(1) Small grean campaign.
(2) Demonstrated that hay grown on Pickens county farms using crimson clover and oats is cheaper than freight alone on Western hay.
(3) Boys' Club work on community basis.

Richland County: J. R. Clark, County Agent.

(1) Standardization of cotton and corn varieties being grown.
(2) Home and commercial orcharding.
(3) Increase in dairying and swine production.

Saluda County: J. M. Eleazer, County Agent.

(1) Peach borer control.
(2) Promotion of beef cattle production.
(3) Interesting farmers in having family cows tested for tuberculosis by State veterinarian. Result, 925 cows tested.

Marlboro County: S. E. Evans, County Agent.

(1) A permanent soil building program inaugurated.
(2) Purebred sires (125 purebred boars and 26 purebred bulls in county).
(3) A 6000 bushel sweet potato storage house.

Orangeburg County: L. S. Wolfe, County Agent.

(1) The organization of the Orangeburg Purebred Hog Association.
(2) Instructions given in the harvesting of 1200 acres of peanuts, a comparatively new crop.
(3) Sweet potato house work (17 houses in county).

Spartanburg County: Ernest Carnes, County Agent.

(1) Sweet potato storage, 9 houses in county.
(2) Boys' Club Work.
(3) "Orchard Week".

Sumter County: J. Frank Williams, County Agent.

(1) Home orchard work and cooperative purchase of trees.
(2) Commercial orchard work (200 acres peaches).

Union County: W. D. Wood, County Agent.

(1) Soil building campaign (4000 lbs. crimson clover and 18000 lbs. vetch seed were put in).
(2) A 4-block bull association organized.
(3) Cooperative buying of fertilizers and seed amounting to $28,605, saving $6,550.

York County: J. R. Blair, County Agent.

(1) Seven sweet potato houses built.
(2) Secured the home mixing of fertilizers on a larger scale than ever.
(3) Cover crop campaaign.

PROJECT NO. 4—HOME DEMONSTRATION

The work of this project is conducted under the immediate supervision of Winthrop College. Under the Smith-Lever law, the Clemson Agricultural College is the State agency for the administration of all extension work in agriculture and home economics and the Director of Extension as joint representative of the United States Department of Agriculture and Clemson Agricultural College is the one official held responsible by both institutions for the proper conduct of all lines of extension work. By special agreement between the Board of Trustees of Clemson and Winthrop, the immediate supervision of home demonstration work is assigned to Winthrop College and 25 per cent of Federal and State Smith-Lever appropriations are set aside for home demonstration work under the supervision of Winthrop College.

The Home Demonstration work is conducted largely through community organizations called Home Demonstration Clubs. Among the outstanding lines of work during the year has been the continuation of the marketing work started previously, which looks to providing an income for the farm woman. The progress made in establishing curb markets in the cities and towns of the state and of marketing products peculiar to localities has been very satisfactory.

The South Carolina Home Producer's Association has been organized for the purpose of standardizing the products and providing for the marketing of various products which are of the quality and kind not usually found in commerce.

A full report on Home Demonstration work is being prepared and published by Winthrop College.

PROJECT NO. 5—NEGRO DEMONSTRATIONS

The negro county agent work is conducted with the assistance and under the immediate supervision of the State College at Orangeburg.

The plan of this work provides for educating the negroes through demonstrations, community fairs, boys' and girls' clubs, canning clubs among women and girls, publications, and otherwise, to

(1) Diversify farm crops
(2) Grow more winter and summer gardens
(3) Make their farms more nearly self supporting.
(4) Raise more livestock and use more milk in their homes
(5) Grow more fruit for home use in summer and for canning for winter use.
(6) Grow more poultry for home use and for market.

This project along with the work with negroes done by extension workers in other projects is designed not only to aid the negroes to adjust themselves to boll weevil conditions, but to aid them in establishing a permanent system of agriculture. The following facts will serve to indicate what is being accomplished by the seven agents employed.

County Organizations—

Boys' Clubs, 27; membership, 138.
Canning Clubs, 31; membership, 214.
Poultry Clubs, 4; membership, 20.
Pig Clubs, 10; membership, 116.
Women's Clubs, 18; membership, 105.
Organized under the home makers club project by the extension agents.

Crops—

	Demonstrations	Acreage	Average Yield
Cotton	38	670	926 lbs.
Corn	51	601	45 bu.
Oats	62	625	35 bu.
Wheat	42	175	14 bu.
Rye	8	52	
Alfalfa	12	4	
Crimson Clover	1	4	
Red Clover	2	4	
Bur Clover	2	1	
Sorghum Mixtures	20	40	
Other hay and forage crops	6	49	
Total for hay and forage crops	43	102	
Cowpeas	49	334	
Soy beans	6	40	
Velvet beans	120	68	
Peanuts	90		
Irish potatoes	9	8½	
Sweet potatoes	93	120	

Orchards—

Demonstrations, 59 orchards; 1775 trees.
Inspected, pruned, sprayed, wormed, and planted, 56 orchards; 1235 trees.

Lime—

Number of farmers using lime at agents advice 40
Quantity so used (tons), ... 22

Manure—

Farmers instructed in care of	425
Quantity being saved, estimated (tons)	8300

Fertilizers—

Number of farmers advised concerning the proper use of fertilizers	710
Number of demonstrations	35
Quantity used on demonstrations (tons)	31
Number of communities buying cooperatively	7
Value of fertilizer so bought	$1,433.50
Saving through such purchases	463.50
Number of farmers home mixing fertilizers	91

Organizations—

Farmers' Clubs organized, 36; membership, 1170.
Farmers' Clubs in the state, 36; membership, 1170.
Clubs that include the farm families, 33.

Number of farmers' organizations buying and selling cooperatively	15
Value of commodities bought and sold cooperatively	$6,723.50
Saving to farmers	2,865.00

Live Stock: Horses and Mules—

Number of purebred horses or mules brought into the state due to agent's influence	4

Dairy Cattle—

Number of purebred dairy cattle brought into the state due to agent's influence	12
Number of grade cattle brought in	65

Beef Cattle—

Number of purebred beef cattle brought in	25
Number of grade beef cattle brought in	75

Sheep and Goats—

Number of flocks started	66

Poultry—

Number of purebred fowls brought in	360

Live Stock Diseases and Pests—

Number of animals farmers have been induced to treat by agent or other extension worker	130
Hogs, cholera	69

Farm and Farmstead Improvements—

Number of buildings erected	54
Number of farm buildings improved	20
Number of new building plans furnished	30
Number of home water systems installed or improved	

Number of home lighting systems installed	15
Number of home grounds improved	196
Number of farm and home sanitary conditions improved	221
Number of homes screened against flies and mosquitoes	99
Number of privies erected (sanitary)	66
Number of telephones installed	78
Number of new pastures established	27
Acreage in new pastures	230
Number of old pastures renovated	60
Number of acres drained by ditch	7350
Number of farmers induced to remove stumps	79
Number of farmers induced to terrace sloping lands	686
Acreage	336
Number of home gardens planted or improved	240
Number of farmers induced to save surplus farm products for winter use	680
Number of road demonstrations assisted in	2
Number of new implements and tools bought	612
Miscellaneous Extension Work—	
Number of visits by agents to farms	3,580
Number of miles traveled	24,574
Calls on agent relative to work at office or home	1,278
Number of farmers' meetings held under auspices of agent or extension division	433
Meetings addressed by agent	514
Total attendance at such meetings (approximate)	22,097
Field meetings held by agent	103
Total attendance at such meetings	1,522
Number of bulletins of U. S. Dept. of Agri. mailed	2,168
Number of bulletins or circulars from State College	95
Number of visits to schools relative to work	208
Extension schools or short courses assisted in	2
Total attendance at such schools	53
Number of boys attending agricultural or other schools or colleges as a result of club work	6
Number of times agents have been visited by specialists from college or department	65
Number of farmers keeping complete or partial cost records	54
Number of farmers selecting seed	645
Number of farmers influenced to grow sugar cane or sorghum for syrup	800

PROJECT NO. 6—LIVE SEOCK

Live Stock Specialists have conducted the following lines of work:

1. Encouraging the use of purebred sires.
2. Culling inferior animals.

3. Promoting the use of home grown feeds, and the growing of forage crops to be harvested by livestock.
4. The feeding of more balanced rations.
5. The erection of more and better fences.
6. Cooperative marketing of livestock in car lots.
7. Livestock judging.

Among the accomplishments of the year secured because of the assistance of livestock specialists are the following:

1.	Number of purebred herds established	16
2.	Number of purebred bulls placed	32
3.	Number of purebred cows placed	75
4.	Number of grade cows placed	140
5.	Number of purebred boars placed	16
6.	Number of purebred sows placed	107
7.	Number of feeding steers bought	231
8.	Judging demonstrations	25
9.	Feeding demonstrations	9
10.	Meat cutting demonstrations	12
11.	Public meetings held	63
12.	Attendance	6100
13.	First class letters written	4166

PROJECT NO. 7—DAIRY

The organization of cooperative bull associations has continued to occupy a large part of the time of dairy specialists. Four of these associations were organized during the spring and preliminary work done looking to the organization of a number of other associations.

We feel that this work is the most important that can be done at present, especially when we realize that one of the greatest needs of this State is more and better dairy cows. According to tabulated reports from the counties of the State, it is estimated that 240 additional milk cows are needed at the present time. If these associations, of which we have 21 in active condition at the present time, continue to function for five or six years, we shall be supplied with dairy cattle of good quality produced economically in the State and will at the same time have the assurance that we are bringing in no contagious diseases from other sections.

Another remarkable development along dairy lines has been the organization since the first of January of eight new creameries. Work in connection with these creameries has been largely with the farmers who are producing the milk and cream which they use.

We have discouraged the establishment of cream stations and our work along this line has been very successful. Cream stations, because of the long delay which they enforce between the time of the production of the cream and manufacture of butter bring about the production of a very poor grade of butter. This naturally reacts against the creameries and through them against the cream producers. Managers of the various creameries are now opposed to this method of collecting cream.

Another line of work which has received some attention is dairy herd management. This work includes assisting in balancing rations and plans for remodeling barns and silos.

We have been fortunate in having the services of Mr. Wintermyer to assist us for two periods of about a month each during the year. Mr. Wintermyer is loaned by the Dairy Division of The United States Department of Agriculture and his services have been very acceptable and effective.

The dairy work is progressing very satisfactorily and is, of course, receiving considerable encouragement because of the boll weevil situation in the State.

PROJECT NO. 8—AGRONOMY

Extension work in agronomy is conducted along the following three lines:

1. Soil Improvement.
2. Crop Improvement.
3. Pasture and Forage Crops.

I. Soil Improvement.

During the summer and fall of 1921 Mr. Winters was in charge of a campaign for soil improvement through the use of summer legumes and winter cover crops. Mr. Winters spent most of his time giving lectures and conducting field meetings on the farms of men who are making outstanding success with this kind of work. Mr. Winters' work attracted a great deal of attention and much interest was secured in this state. The result has been tremendous increase in the leguminous crops planted in the state, both as winter cover crops and summer legumes. Mr. Winters left the college on leave of absence for graduate work at Cornell University in February and returned the first of June. This made it impossible for us to start any field demonstrations in this project, though we plan to do this next year when Mr. Winters will complete the work for his doctor's degree at Cornell and return to us permanently.

II. Crop Improvement.

During the summer of 1921, it was decided to employ additional help for Seed Improvement work as at that time Mr. Jas. L. Carberry was the only specialist engaged in this line of work. Mr. E. E. Hall, who had been in this line of work formerly, was reemployed to take up the work in the Pee Dee section of the state with headquarters at Florence, S. C. Mr. Hall was employed September 1, 1921. Mr. P. H. Senn was employed December 1, 1921, to take up the work in the lower part of the state with headquarters at Spartanburg. Most of the work which has been done was spent with cotton breeding.

Mr. Hall has located cooperative breeding projects in seven counties and has several good community organizations started and expects to enlarge his work next year. This work has been organized on a community basis as far as possible throughout the state.

Mr. P. H. Senn has located Seed Improvement Projects in eight counties and the work in all of these is progressing very satisfactorily.

Mr. Jas. L. Carbery has community breeding projects in eight counties with several community organizations in some other counties. Mr. Carbery is doing some work with corn as well as cotton and both corn and cotton work is making satisfactory progress.

III. Pasture and Forage Crops.

During the latter part of 1921 and early in 1922, Mr. S. L. Jeffords, who is conducting this line of extension work, started 37 pasture demonstrations in 15 different counties. In addition to this Mr. Jeffords has done much emergency work, such as advising farmers regarding pasture problems, writing news articles for publication and conferring with County Agents and other specialists. More demands have been made on Mr. Jeffords than he has been able to meet. We have had a favorable year for pasture demonstrations and have received many reports, all of which indicate that this work is succeeding.

PROJECT NO. 9—HORTICULTURE

Four men were engaged in the Horticultural Extension work. The most important work done was in connection with home and commercial orchards, sweet potato curing houses and related sweet potato work, home gardening and special trucking.

The orchard work consists of advice in the selection of orchard sites, encouragement in the cooperative purchase of nursery stock and other supplies; and organizing at the proper season "Orchard Week" at which time intensive work is done in the respective counties along orchard lines, such as holding meetings, giving lectures and demonstrations in planting, pruning, spraying and general orchard management. During the year 257 new orchards were established with a total of 212,700 trees. These trees were purchased cooperatively at an average cost of 12 cents per tree, whereas if they had been purchased in the usual way, they would have cost 17 cents each with less assurance of desirable varieties. Cooperative buying, in this case, saved \$10,635.00. During the year the owners of 752 orchards were receiving advice either directly or indirectly through the machinery of this project.

It is interesting to note the gradual development around and resulting from the home orchard demonstrations. D. E. Good, of Walhalla, one of the first orchard demonstrators, sold from 500 apple trees a sufficient quantity of fruit to give him a net return of \$1,863.00 This demonstration was of double value because of the fact of its proving that apples can be successfully grown on a commercial scale in the vicinity of Walhalla, also serving as an object lesson.

Commercial peach planting has been especially active during the period covered by this report. The extent of commercial development extends through the sand hills from Augusta, Georgia to Hamlet, North Carolina. Sand hill land that only a few years ago sold for 50 cents an

acre now produces first quality peaches and offers a foundation for a commercial industry.

Local associations were formed at McBee, Aiken, Gramling, and Wedgefield. Members of these associations with other prominent peach growers formed the South Carolina Peach Growers' Association.

The sweet potato work consisted of campaigns staged for the planting of one variety of disease free seed, seed inspection, bedding and seed treating and harvesting and field grading demonstrations. The increase in the storage houses built was more than 100 per cent and the results obtained through our campaigns were most outstanding, resulting in South Carolina shipping approximately 100 cars of first class sweet potatoes. We received reports from all of the houses, 180 government standard and approximately 100 remodeled, with an aggregate of 435,650 bushels of space, and the maximum loss resulting from rot was less than 5 per cent. The value of the stored crop could easily be estimated at $435,650.00.

Our vegetable work consisted of home and market gardening and mill village gardening, and special cropping. The gardening work was handled in a cooperative way with the home demonstration department and the mill village Welfare Workers. We staged campaigns through "Garden Week" and "Garden Schools", which work was followed up through the use of gardening lessons sent to the respective clubs on the 25th of the previous month. Through this method, we reached 2,007 gardeners and in many instances the garden carried a few new vegetables that were previously unknown.

Our special cropping consisted in assisting with the growing of fall beans, English peas, asparagus, and fall Irish potatoes. In this work we assisted with the growing of 462 plantings, directed 28 plant growers and organized 4 vegetable associations. The fall bean work was an outstanding success and will project itself over the entire trucking section.

Peach borer control—We helped establish the use of paradichlorobenzine by putting on two demonstrations—J. V. Smith, Greer, S. C., and R. M. Watson, Ridge Springs, S. C.,— on 6,000 trees. The salt was applied at a cost of 2 cents per tree and peach borer control was 98 per cent effective.

Lime sulphur plants—We assisted with the establishment of four commercial lime sulphur plants. These plants cost approximately $25.00 each and are of sufficient size to supply the community needs of lime sulphur. Lime sulphur was made at a cost of approximately 11 cents per gallon or at a saving of 9 cents per gallon.

PROJECT NO. 10.—POULTRY.

One specialist in poultry extension work, Mr. N. R. Mehrhof, gives full time to the promotion of this increasingly important phase of agriculture.

This work is conducted along certain very definite lines, among which are the following:

1. Promoting standard bred poultry.
2. Organizing and assisting county and community poultry associations.
3. Culling, so as to eliminate any unprofitable birds.
4. Assisting commercial poultrymen.
5. Developing efficient farm flocks as demonstrations.

Publicity work along all these lines has been very satisfactory and it now appears that under boll weevil conditions, the poultry business is going to be very much more important than heretofore.

The following is quoted from Mr. Mehdhoff's report for the year:

"The back yard flock, the farm flock, the commercial flock, are all receiving better care and management. Purebred poultry is being put out daily. At this time it is impossible to give accurate figures stating the amount of purebred eggs, chicks, and stock that the people have purchased. All we can say is that the business has been tremendous.

"Standard bred poultry is being urged at all times and the people over the State realize its importance, and have been purchasing some of the best stock that could be obtained in this section.

"County poultry associations have taken a prominent part in poultry extension work. At this time, there are six county associations and one State association. It is indeed gratifying to note the interest that has been taken in these associations; and, also the extent in which one can reach a large number of people at one time.

"Culling is in progress at this time, and all are willing to learn the method of eliminating the non-producer. They are beginning to realize that their profits will be less if they have to feed a number of slackers. Culling demonstrations will be held through October of this year.

"Commercial poultry has taken a great increase. Several plants are being completed now, and from all indications, there should be some typical commercial plants this fall. The White Leghorn predominates as the commercial egg producer on these farms.

"Poultry records and accounts are being urged and there are about fifty people keeping accurate records on egg production, expenditures and receipts. We are in hopes that more people will realize the value and importance of keeping records.

"The capon demonstrations have been well started and we have conducted twelve of the sixteen demonstrations. There has been a tremendous interest in caponizing this season, and a large part of my time has been devoted to capon demonstrations. Detailed reports as to the results of these demonstrations will be furnished at a later date. Up to date there has been less than two percent mortality, which is indeed remarkable when we stop to consider that every one present did some caponizing.

"Circular letters are written each month, emphasizing the importance of some timely subject. Since starting Extension work, the interest has been so great that it was deemed advisable to issue monthly

circular letters. They have met the approval of the people and considerable educational work can be conducted in this manner.

"In summary, I wish to state that the prospects of poultry raising appear very bright in South Carolina. With the interest of the people, I thoroughly believe that greater cooperation will be obtained which will result in better work. Relative to projects that are being conducted, it seems as though all projects started will be developed and carried to a successful end."

PROJECT NO. 11.—MARKETING.

The work of the marketing agents has consisted of demonstrations in grading, handling, packing, loading and shipping of truck, fruit and field crops and of the organizations of cooperative associations of truck and fruit growers. In addition to this under the authority of a State law passed two years ago, official state standards have been fixed for grading the following truck and fruit crops: apples, asparagus, cabbage, celery, cucumbers, lettuce, onions, peaches, potatoes, strawberries, sweet potatoes, and tomatoes.

Along with this work goes the establishment of standard containers and rules for packing fruit and vegetable crops. The state grades which have been fixed are the same as the standard grades on these crops. This reacts in favor of the growers because it promotes a uniform understanding of grades throughout the country.

Grading and standardizing the crops being grown and the methods of handling them is working a revolution in the trucking industry. It was found necessary in order to carry into effect our plans for educating truck growers in properly handling their produce to employ three additional truck graders. These men began work in May and were employed for the busy shipping season. In addition to this, the full time specialists, Messrs. Harkey and Lewis are giving most of their time to field work. During the period, January 1st, 1922, to July 1st, 1922, a total of 1,905 demonstrations in grading and packing were made by the five marketing specialists and 513 inspections and demonstrations in car loading were made. It is estimated that there were in attendance at these demonstrations over 12,000 people. This is indicative of the volume of field work being done by the marketing agents and helps to explain the great influence this work is having.

One of the most clear cut pieces of work in grading has been done in connection with the shipments of sweet potatoes in this state. This work was all done by the marketing agents and under their supervision. Of course, it is planned as soon as possible to turn this work over to the sweet potato association, and this will be done when the work passes the demonstration stage.

Six organizations for the handling of truck and fruit crops have been promoted during the year and these are now in successful operation. Unfortunately the amount of truck produced together with high freight rates has worked to prevent truck growers from realizing any profit on the industry this year. This is true of the trucking industry from Long Island to Florida and is not confined to this State.

PROJECT NO. 12—ENTOMOLOGY.

Extension work in Entomology has consisted of boll weevil control, bee keeping and miscellaneous insect work.

During the year the people of the State have come to realize more than ever before the seriousness of the boll weevil problem. They studied this problem and have learned more about it than during any previous period. The poisoning work with calcium arsenate during 1921 did not prove to be of extraordinary value, largely on account of weather conditions.

With the beginning of the present crop year the Extension Service planned to put into operation eight demonstrations in boll weevil control through the use of calcium arsenate. These demonstrations were located in different part of the State in order that they might be carried out under varying weather and soil conditions. They were located on the farms of intelligent men, who would give personal supervision to the work and see that instructions were carefully followed. In addition these demonstrations were closely supervised by men, employed by the Extension Service and the Experiment Station, and who have had considerable experience in the use of poison and the operation of dusting machinery. The following are the points at which the demonstrations were located: Clemson College, Anderson, Greenwood, Johnston, Eastover, Sumter, Florence and Darlington.

These demonstrations are expected to develop some useful information regarding the subject of boll weevil control under South Carolina weather and soil conditions. In addition to these demonstrations a number of poisoning demonstrations are being conducted by the County Agents cooperating with the leading farmers in the various counties. Another year will find us, without doubt, in possession of more definite information than we have had heretofore on this subject.

The bee keeping work has continued to develop very satisfactorily from its beginning as a war measure. Mr. Prevost has continued in charge of this line of work in the field. Practically his entire time is taken up in giving demonstrations and conducting model apiaries in all sections of the State. In a number of counties the bee keepers have organized themselves into associations for mutual benefits. The demonstration apiaries being supervised by Mr. Prevost are marketing a number of products among which are: honey, queens, packages of bees and beeswax. One of the big problems of the bee keeper in this State is to have a large number of worker bees in every hive ready for the early honey flow, which is the important honey flow in this State. Mr. Prevost has demonstrated how this can be done through the prevention of swarming.

PROJECT NO. 13.—PLANT PATHOLOGY.

There are no definitely organized projects in plant disease work and no full time specialist is employed. Practically the only extension work along this line has been of an emergency character.

A considerable amount of work has been done along the line of identifying plant diseases and recommending proper treatment.

A great many conferences are held with members of the Horticultural and other divisions.

PROJECT NO. 14.—BOYS' CLUB WORK.

Boys' Club work is based on the crop year. The following is a report of the results of Boys' Club Work for the calendar year, 1921:

Corn Clubs—

Results of members making complete reports:
Number of members enrolled, 733.
Members making complete reports, 410.
Total yield reported, 18,860 bushels.
Average yield per acre, 46 bushels.
Average cost per bushel, 42 cents.

Estimated Results of Members not Making Complete Reports:
Members not making complete reports, 323; yields, 10,962 bushels.
Total estimated yields, 10,982.
Average yield per acre, 34 bushels.
Average cost per bushel, 49 cents.
Total value of all corn produced, $29,842.00.
Total cost of production, $13,302.38.
Net profit, $16,539.62.

Cotton Clubs—

Results of members making complete reports:
Number of members enrolled, 31.
Making complete reports, 15.
Pounds of lint cotton produced, 7,240.
Value of lint cotton, $1,446.00.
Cotton seed produced, 16,035 pounds.
Value of all cotton seed produced, $280.61.
Total value of crops, lint and seed, $1,726.61.
Total cost of production, $581.55.
Net profit, $1,145.06.
Yield seed cotton per acre, 1,685 pounds.
Average cost per pound of seed cotton, 2.3 cents.

Estimated Results of Members not Making Complete Reports:
Members not making complete reports, 16.
Pounds of lint cotton produced, 5,600.
Value of lint cotton, $1,120.00.
Cotton seed produced, 11,200 pounds.
Value of cotton seed produced, $196.00.
Total value crop including lint and seed, $1,316.00.
Total cost of production, $648.00.
Net profit, $668.00
Yield seed cotton per acre, 1,680 pounds.

Average cost per pound of seed cotton, 4 cents.

Peanut Clubs—

Results of members making complete reports:

Members enrolled, 84.

Members making complete reports, 7.

Number of acres, 7.

Total yield of nuts, 194 bushels.

Value of nuts, $384.59.

Yield of hay, 9,790 pounds.

Value of hay, $97.90.

Total value of nuts and hay, $482.49.

Cost per bushel, of nuts, 23 cents.

Total cost of crop, nuts and hay, $141.97.

Net profit, $340.52.

Estimated Results of Members not Making Complete Reports:

Members not making complete reports, 77.

Number of acres, 77.

Total yield of nuts, 1,771 bushels.

Total value of nuts, $3,480.01½.

Yield of hay, 107,646 pounds.

Value of hay, $1,076.46.

Total value of nuts and hay, $4,556.47½.

Total cost of crop, nuts and hay, $1,694.00.

Cost per bushel of nuts, 35 cents.

Net profit, $2,862.47½.

Miscellaneous—Cowpeas, Potatoes, Etc.—

Members enrolled, 91.

Estimated value of products produced, $4,550.00.

Cost of production, all expenses, $2,730.00.

Net profit, $1,820.00.

Profit per acre, $20.00.

Pig Clubs—Results of members making complete reports, fattening and breeding class:

Number of members enrolled, 1,039.

Members making reports to date, 75.

Number of animals kept and developed, 75.

Weight of animals at beginning of contest, 3,000 pounds.

Weight of animals at close of contest, 17,625 pounds.

Total gain in weight, 14,625 pounds.

Average gain per day, 1 3-4 pounds.

Total value of animals, close of contest, market price, $2,115.00.

Total expenses, $1,770.75.

Net profit, $344.25.

Cost per pound of gain, 6 cents.

Sow and Litter Class:

Members reporting to date, 25.

Brood sows kept, 25.

Value of brood sows at beginning of contest, $1,875.00.

Value of brood sows at close of contest, $2,500.00.
Increase in value of brood sows, $625.00.
Number of pigs raised, 150.
Value of pigs raised, $3,750.00.
Total cost of feed and care, $500.00.
Total cost, including price of sows, $2,375.00.
Net profit, $2,000.00.

Estimated Results of Members not Making Complete Reports, Fattening and Breeding Class:
Members not making complete reports, 939.
Number of animals kept and developed, 939.
Value of animals at beginning of contest $18,780.00.
Weight of animals at beginning, 28,170 pounds.
Weight of animals at close of contest, 159,830 pounds.
Total gain in weight, 131,660 pounds.
Average daily gain, 1 1-3 pounds.
Total value of animals at close, market price, $22,780.00.
Expense for feed and care, $2,756.00.
Net profit, $1,000.00.
Cost per pound of gain, 9 3-4 cents.

Calf Clubs—Results of Members Making Complete Reports:
Number enrolled, 32.
Number reporting to date, 14.
Number of animals developed, 14.
Weight of animals at beginning of contest, 3,074 pounds.
Weight of animals at close of contest, 7,350 pounds.
Value of animals at beginning of contest, $1,330.00.
Value of animals at close of contest, $2,520.00.
Expenses, including purchase price and feed, $1,452.50.
Net profit, $1,067.50.

Estimated Results of Members not Making Complete Reports:
Members not making complete reports, 18.
Number of animals developed, 18.
Weight of animals at beginning of contest, 3,600 pounds.
Weight of animals at close of contest, 9,000 pounds.
Total gain in weight, 5,400 pounds.
Value of animals at beginning of contest, $1,530.00.
Value of animals at close of contest, $3,060.00.
Expenses including purchase price and feed, $1,890.00.
Net profit, $1,170.00.

FUNDS FOR EXTENSION SERVICE WORK FROM ALL SOURCES—FISCAL YEAR ENDING JUNE 30, 1922.

1.	State appropriation (State Smith-Lever)	$ 94,147.00
2.	Federal appropriation (Federal Smith-Lever)	147,902.57
3.	County funds	103,276.97
4.	U. S. Department of Agriculture funds	32,952.00

5. Miscellaneous funds	14,146.00	a
Total Resources	$392,424.54	b

a. Of the above total $7,146.00 consists of funds raised and disbursed by local farmers' associations with which the extension service was co-operating in maintaining cotton grading work. This fund discontinued on July 1, 1922.

b. Of the above total $123,558.29 was expended for home demonstration work and work in cities under the general supervision of Winthrop and the immediate supervision of Miss Christine N. South.

EXPENDITURES BY PROJECTS

Fiscal Year 1921-1922.

No.	Project.	Expenditure Total	State S.-Lever	Federal S.-Lever	U.S.D.A. Funds	County Funds	Misc. Funds
1.	Administration	27,741.03	$15,755.17	$10,785.86	$1,200.00	$.....	.....
2.	Printing and Distr. of Pub.	6,649.89	3,165.61	3,484.28	.....	.....	.....
3.	County Agents	136,527.80	16,190.74	47,452.33	17,868.42	55,016.31	.....
4.	Home Demonstration	123,558.29	23,772.41	34,713.64	9,811.58	48,260.66	7,000.00
5.	Negro Demonstration	8,172.16	509.52	5,382.64	2,280.00	.....	.....
6.	Live Stock	11,906.51	2,685.18	9,221.33	.....	.....	.....
7.	Dairy	10,824.53	6.169.40	4,655.13	.....	.....	.....
8.	Agronomy	17,045.08	7,585.14	9,459.94	.....	.....	.....
9.	Horticulture	14,153.30	6,941.90	7,211.40	.....	.....	.....
10.	Poultry	3,095.39	36.21	3,059.18	.....	.....	.....
11.	Marketing	11,575.60	6,263.96	5,311.64	.....	.....	.....
12.	Entomology	4,775.24	1,909.19	2,866.05	.....	.....	.....
13.	Botany and Plant Pathology	600.00	.....	600.00	.....	.....	.....
14.	Boys' Club Work	7,283,86	2,910.57	3,233.29	1,140.00	.....	7,146.00
15.	Cotton Grading and Marketing	8,515.86	252.00	465.86	,652.00	.....	
	Totals	$392,424.54	$94,147.00	147,902.57	$32,952.00	$103,276.97	$14,146.00

PERSONNEL EXTENSION SERVICE—1921-1922.

A. Administrative Officers.

Director of Extension	W. W. Long
Assistant Director of Extension	D. W. Watkins
District Agent	H. S. Johnson
District Agent	A. A. McKeown
District Agent	T. B. Young
Chief of Horticulture	C. C. Newman
Chief of Agronomy	C. P. Blackwell
Chief of Botany and Plant Pathology	H. W. Barre
Chief of Entomology	A. F. Conradi
Chief of Dairying	J. P. LaMaster
Chief of Animal Husbandry	L. V. Starkey
Agricultural Editor	A. B. Bryan
Supervising Agent Boys' Club Work	L. L. Baker

B. Specialists.

D. T. Herrman, Live Stock Specialist.
W. J. Sheely, Live Stock Specialist.
S. D. Sims, Live Stock Specialist.
D. C. Badger, Agent in Dairying.
C. G. Cushman, Agent in Dairying.
W. J. Keegan, Dairy Husbandman.
N. E. Winters, Specialist in Soils and Fertilizers.
J. L. Carberry, Agronomist.
E. E. Hall, Plant Breeder.
P. H. Senn, Plant Breeder.
S. L. Jeffords, Forage Crop Specialist.
G. P. Hoffman, Extension Horticulturist.
A. E. Schilletter, Assistant Extension Horticulturist.
C. A. Owens, Assistant Extension Horticulturist.
Rudolph Farmer, Assistant Extension Horticulturist.
N. R. Mehrhof, Poultry Husbandman.
F. L. Harkey, Field Agent in Marketing.
L. H. Lewis, Agent in Marketing.
N. S. Franklin, Specialist in Packing and Grading. (a).
W. A. Stringfellow, Specialist in Packing and Grading. (a).
Bolling Hall, Specialist in Packing and Grading. (a).
D. D. Whitcomb, Specialist in Packing and Grading (a).
E. S. Prevost, Bee Specialist.
B. O. Williams, Assistant Supervising Agent Boys' Club Work.
J. E. Moore, Cotton Grader. (b).
H. J. McCutcheon, Cotton Grader. (b).
T. M. Wolfe, Cotton Grader. (b)

(a) These specialists only on for a period of three months.
(b) The appointment of these men terminated June 30, 1922.

C. COUNTY AGENTS.

Name	County
L. B. Altman,	Greenwood.
C. L. Baxter,	Beaufort.
J. R. Blair,	York.
T. A. Bowen,	Pickens.
H. G. Boylston,	Barnwell.
G. R. Briggs,	Oconee.
J. D. Brandon,	Bamberg.
T. B. Brandon,	Dorchester.
S. M. Byars,	Anderson.
Ernest Carnes,	Spartanburg
T. M. Cathcart,	Wiliamsburg.
A. B. Carwile,	McCormick.
A. H. Chapman,	Greenville.
J. R. Clark,	Richland.
W. O. Davis,	Horry.
T. M. Mills,	Newberry.
C. L. McCaslan,	Calhoun.
M. M. McCord,	Georgetown.
G. C. McDermid,	Charleston.
W. G. McGowan,	Abbeville.
.....	Edgefield.
Colin McLaurin,	Marion.
J. W. McLendon,	Florence.
.....	Berkeley.
J. P. Quinerly,	Lee.
Z. D. Robertson,	Allendale.
H. K. Sanders,	Chester.
.....	Jasper
J. W. Sanders,	Kershaw.
J. W. Shealy,	Lexington.

Name	County
J. M. Eleazer,	Saluda.
S. W. Epps,	Dillon.
S. E. Evans,	Marlboro.
W. R. Gray,	Clarendon.
O. T. Harper,	Aiken.
W. F. Howell,	Lancaster.
H. M. Kinsey,	Colleton.
R. H. Lemmon,	Fairfield.
S. C. Stribling,	Chester.
L. S. Wolfe,	Orangeburg.
W. J. Tiller;	Chesterfield.
C. L. Vaughan,	Laurens.
A. H. Ward,	Darlington.
J. F. Williams,	Sumter.
W. D. Wood,	Union.
Gustavus York,	Hampton

LOCAL AGENTS.

H. E. Daniels, Assistant District Agent.

Name	County
Benjamin Barnwell,	Beaufort.
G. W. Daniels,	Orangeburg.
J. E. Dickson,	Richland.
W. H. Hilyard,	Greenwood.
E. D. Jenkins,	Bamberg.
Jason Maloney,	Sumter.

D. CLERKS AND STENOGRAPHERS.

Mrs. Helen S. Torrence,	Librarian, (a)
S. W. Evans,	Treasurer, (a)
E. B. Elmore,	Bookkeeper, (a)
C. M. Hall,	Chief Clerk and Accountant
Louise Burgess,	Stenographer
Leila Hart,	Stenographer
Lucile Rochester,	Stenographer
Julia Hook,	Mailing Clerk, (a)
Sally Corbett,	Stenographer, (a)
Rosa Morrison,	Stenographer
Mrs. Elizabeth E. Bellinger,	Stenographer
Mrs. Louise H. Blakely,	Stenographer
Bessie M. Cranford,	Stenographer
Harriett V. Moore,	Stenographer
Ella Norris,	Stenographer

(a) Paid in part from Extension Sources.

E. HOME DEMONSTRATION AGENTS.

This list of agents not shown for the reason they are working under immediate supervision of Winthrop College and names will appear in the report of Winthrop College.

THE NEW FISCAL YEAR

The outlook for extension work at the beginning of this fiscal year was very bright. People apparently appreciate the value of this work more than they have at any time in the past. Supervising of regular demonstrations, together with call made on our agents has kept them pracically all of the time in the field.

Among the demonstrations that are attracting statewide interest should be mentioned the boll weevil poisoning work conducted in six different counties, as follows: Darlington, Sumter, Richland, Greenwood, Anderson, and Saluda. In addition to these demonstrations, the Experiment Station conducted similar work at the college station and at the Florence station. We believe that the results of these demonstrations will prove of interest and give them as follows:

	Applications		Yield per acre in Seed Cotton		
Place and Variety	No.	Cost p.a.	Dusted	Undusted	Gain
Clemson College—Cleveland	5	$4.22	1078	792	286
Florence—Dixie Triumph	4	3.43	988	803	185
Darlington, (a)—Cleveland	7	5.67	850	299	551
Darlington (b)—Lightning Exp.	8	6.12	878	271	607
Sumter—Cleveland	5	3.00	861	363	498
Eastover (a)—Cleveland	4	2.75	1407	1039	368
Eastover (b)—Lightning Exp.	3	2.01	1414	117	297
Johnston—Cleveland	3	1.98	512	310	202
Greenwood—Cleveland	6	4.08	827	486	341
Average	5	3.69	979	609	370

The Extension Service is asking for the same State appropriation as was made in January, 1922. The amount is just enough to off-set the Federal Smith-Lever appropriation. Under the Smith-Lever Law, the Federal Smith-Lever appropriation is available only when off-set dollar for dollar by the State appropriation. The Smith-Lever law passed in 1914 has reached its maturity in so far as appropriations are concerned. The State has never yet lost any of the Federal appropriation because of failure on the part of the State to make the necessary appropriation for off-setting.

Yours very truly,

W. W. LONG,
Director.

Report of the Secretary of the Fertilizer Board

Dr. W. M. Riggs, President, Clemson Agricultural College,

Clemson College, South Carolina.

Dear Sir:

December 20, 1922.

I respectfully submit the following report of the work of the Fertilizer Department for the fiscal year ending June 30th, 1922.

The tonage of commercial fertilizers as shown by the sale of tags (507,068 tons) was twenty-five percent less than last year, and the smallest since 1905 or 17 years ago. This resulted in part from the financial depression which has prevailed, causing manufacturers and dealers to withhold the credit usually extended; and in part to the advent of the boll weevil ocmpleting the entire infestation of the State. Just as happened in other states, their coming caused panic and demoralized our agriculture and every other related business. Under such conditions, our farmers were uncertain what crops they should substitute for cotton and plan most rigid economy in experimenting with other new money crops. Figures furnished by the Southern Fertilizer Association as compiled from reported sales in eleven leading South Eastern States show increased sales of commercial fertilizers, especially so in those states having weevils the longest,—notably Alabama, Mississippi and Florida—doubling that of last year, while only Georgia and South Carolina have fallen behind. But with the experience of these other states to guide us and Extension Agents to direct, it is hoped and believed that our state will soon regain its poise and normal prosperity. Very encouraging reports of results from the intelligent use of Calcium Arsenate inspires the confident hope that this will prove their most destructive year in this state, and the morale of our farmers improves with this prospect of their defeat.

While reports indicate in this state only half or less of average cotton crop, yet from this reduced crop will derive at present prices more than half the average revenue from its sale, while we have produced at home more abundant supplies of other agricultural products than any former year. If the coming of the weevil results in such diversity of crops as will insure an ample supply of these home products which we have been accustomed to buy and import from other states, it may not prove an unmixed evil.

INSPECTION AND ANALYSIS

With the reduced volume of business evident at the beginning of the season, eight (8) inspectors were employed and entered on their work at the same salary per month as last year. Of the official samples drawn and sent us by the inspectors, ninety-five percent were drawn at special request of the purchasers, to whom copies of their analyses were sent soon as made. As shippers familiarized themselves with the new fertilizer law, a more careful compliance was observed by them, so but few violations were found and reported.

For results of analysis I refer to our general Bulletin No. 212 and Dr. R. N. Brackett's detailed report; and for expenses incurred to the report of our College Treasurer.

Respectfully submitted,

H M. STACKHOUSE.

Report of State Chemist.

Dr. W. M. Riggs, President

Clemson College, S. C.

Dear Sir:—

I respectfully submit the following report of the analytical work of this department on commercial fertilizers, waters, etc., done for the Board of Trustees, Fertilizer Control, and for the citizens of our State, and for other departments of the college, and of referee work for other laboratories, and of collaborative work with the Association of Official Agricultural Chemists, during the year ending June 30th., 1922. For the sake of comparison the figures for last year are given side by side with this year:—

	1920-1921	1921-1922
Official samples of fertilizers	763	722
Farmers' samples of fertilizers	36	47
Waters	61	84
Ores, minerals, rocks, etc., for identification	47	47
Limestones, marls, and lime	5	6
Assays for gold and silver	2	8
Ashes (wood, etc.)	0	1
Miscellaneous	19	30
Experiment Station work	758	668
	1691	1613

The most striking facts shown in this summary are:—First that the official fertilizer samples have decreased a little over 5 1-4 per cent. as compared with last season; second, that the number of farmers' samples of fertilizers has increased about 30 1-2 per cent.; third, that the number of water analysed has increased about 37 3-4 per cent. as compared with last year; fourth, that the miscellaneous samples have increased about 58 per cent.; fifth, that the samples analysed for the Experiment Station have decreased nearly 12 per cent., however the actual number of individual determinations involved in analysing the samples this season was ery much greater than last season, as 222 of the 668 samples were complete analyses of soils requiring nine separate constituents to be determined in each sample of soil.

A complete report of the work done for the Experiment Station has been made to the Director, H. W. Barre, but I may say for your information that the 668 samples listed consisted of: 222 soil samples, 259 samples of cotton seed and 14 samples of peanuts for oil and moisture; one sample of silage—496 samples in all, analyzed by Mes-

srs. Robertson, Foy, Gunter and Freeman. The remaining 172 of the 668 samples were analysed by Professor Lippincott, and consisted of:—120 samples of soil for nitrate and moisture in connection with an Adams' project; 41 samples of calcium arsenate examined for the Entomological Division and for citizens of the State, in order to determine whether or not they met the Government requirements; one sample of lead arsenate; eight samples of feeds for the Dairy Division; one sample of soil; and one clay.

OFFICIAL FERTILIZER SAMPLES

Classification

	1920-1921	1921-1922
Complete fertilizers	411	434
Special mixtures (phosphoric acid and ammonia)	94	89
Acid phosphates	79	73
Acid phosphates with potash	6	2
Cottonseed meals	77	30
Nitrate of soda	44	34
American Potash	0	0
Foreign potash	41	39
Dried Blood	1	1
Sulphate of ammonia	1	4
Tankage	0	0
Fish	3	15
Miscellaneous	6	1
	763	722

DEFICIENT SAMPLES

Of the 719 samples considered in the discussion 94 fell below the commercial value based on guarantee, as follows:—

In available phosphoric acid	10
In ammonia	26
In potash	15
In available phosphoric acid and ammonia	13
In available phosphoric acid and potash	9
In ammonia and potash	18
In available phosphoric acid, ammonia and potash	3
Total	**94**

The miscellaneous sample was rape castor meal, and together with one sample of kainit, and one of muriate, neither of which was guaranteed, is omitted from the discussion which follows.

Last season out of 759 samples 95, or 12.52 per cent. were deficient in commercial value based on guarantee, while this season the number so deficient is 94 out of 719, or 13.07 per cent.

The extent to which these 94 samples fell below the guaranteed analysis in per cent. is as follows —

	0.00-0.10	0.10-0.25	0.25-0.50	0.50-1	1 and over
In available phosphoric acid	3	11	4	13	5
In ammonia	19	20	12	9	2
In potash	6	14	11	9	5
	28	45	27	31	12

This is on the whole a much worse showing than was made last year, especially in ammonia, but also in potash.

Of the 94 samples which fell below guaranteed commercial value, twenty-seven were deficient three per cent, or more below that value, as follows:—

In available phosphoric acid	1
In ammonia	10
In potash	3
In available phosphoric acid and ammonia	3
In available phosphoric acid and potash	2
In ammonia and potash	5
In available phosphoric acid, ammonia and potash	3
	27

Last season out of 95 samples deficient in commercial value based on guarantee, 42, or 44.21 per cent., were deficient three per cent, or more, while this season out of 94 samples twenty-seven were deficient three per cent, or more, or 28.72 per cent., a very large drop. When the comparison is made on the total number of samples, last season out of 759 samples, 42 were three per cent. or more deficient in commercial value, or 5.53 per cent., while this season out of 719 samples, twenty-seven were three or more per cent. deficient, or 3.76 per cent.

The extent to which these twenty-seven samples, deficient three per cent, or more in commercial value, fell below the guaranteed analysis in per cent. is as follows:—

	0.00-0.10	0.10-0.25	0.25-0.50	0.50-1	1 and over
In available phosphoric acid	0	3	0	4	2
In ammonia	1	2	7	9	2
In potash	1	2	3	4	2
	2	7	10	17	6

In addition to the 94 samples deficient in commercial value based on guarantee, there were 230 samples which were found below guarantee in one or more ingredients, the deficiency being made up, however, by an excess of other ingredients. They were deficient as follows:—

In available phosphoric acid	53
In ammonia	41
In potash	111
In available phosphoric acid and ammonia	1
In available phosphoric acid and potash	9
In ammonia and potash	15
	230

Last season out of 759 samples, 229 were found deficient in one or more ingredients, but not deficient in commercial value based on guarantee, or 30.17 per cent., while this season out of 719 samples, 230 were thus deficient, or 31.98 per cent., a slight increase.

The extent to which these 230 samples fell below the guaranteed analysis in per cent, is as follows:—

	0.00-0.10	0.10-0.25	0.25-0.50	0.50-1	1 and over
In available phosphoric acid	14	17	15	11	3
In ammonia	37	18	3	1	0
In potash	28	64	29	16	1
	79	99	47	28	4

While the potash deficiencies are about the same as last season, and the phosphoric acid deficiencies are about one-third less, the deficiencies in ammonia are nearly 2.4 times as many more this season than last.

In connection with the subject of deficients, the results of some of the analyses this season are interesting as compared with last season:

Acid Phosphates—There were no goods of this class guaranteed less than 16 per cent. either this season or last. There were 73 samples received for analysis this season, of which two were deficient, one three per cent. or more in commercial value, while last season there were 79 samples, of which 17 were deficient and of these 17 six were three per cent, or more deficient. This is a much better showing than was made last season in the quality of these goods.

Acid Phosphates with Potash—There were only two samples of this class of goods this season, one guaranteed 10-0-2, and one 10-0-4, both of which were deficient in potash, but neither deficient in commercial value. Last season there were six samples, one guaranteed 10-0-2, deficient in potash, but not in commercial value, and the other five guaranteed 10-0-4, two of which were deficient in potash, but not three per cent. in commercial value, while the other three were deficient in both phosphoric acid and potash and three per cent. or more in commercial value.

In connection with the deficiencies in potash, not only in acid phosphate with potash but also in other mixed goods, the following summary for the last eighteen years may prove interesting. In it is to be noted that none of the deficient samples here listed in deficient in commercial value.

Year	Number of Samples	Deficient in One or More Ingredients.	Deficient in Potash only.	Deficient in Potash Per Cent
1905	522	165	53	32.12
1906	655	201	62	30.84
1907	743	153	34	22.22
1908	713	161	54	33.54
1909	805	197	85	43.14
1910	1188	235	86	36.60
1911	1605	393	182	46.31
1912	1689	380	225	59.21
1913	1922	389	90	23.13
1914	2537	534	113	21.16
1915	1227	333	107	32.13
1916	1598	378	54	14.28
1917	1594	477	75	15.72
1918	1474	438	68	15.52
1919	1301	362	100	27.62
1920	1668	519	193	37.19
1921	763	229	116	50.65
1922	722	230	111	48.26

This summary shows that of the samples deficient in one or more ingredients, but not deficient in commercial value, a very large percentage is deficient in potash only.

This deficiency was especially marked during the years 1909 to 1912, inclusive. There was a marked drop in the years 1913 and 1914, but in 1915 the percentage deficiency was the same as in 1905. The figures for 1916 are not very significant on account of the small number of samples on the market containing potash. The percentage deficiency in 1919 was considerably greater than it was in 1917 and 1918, and higher than it had been since 1915, but the deficiency this season and last approaches that of 1912, being 50.65 last season and 48.26 per cent. this season, against 59.21 per cent, for 1912, which is still the maximum record for potash deficiency.

Top Dressers.—We have analysed fewer samples of goods of this class than last year, twenty-one samples against twenty-four last year, and while the percentage deficiency is somewhat smaller, the percentage of three per cent. deficients is very much larger as shown by the following figures:—Eight out of twenty-one, or 38.09 per cent., were deficient in commercial value, and of these eight, six or 75 per cent., were three per cent. or more deficient in commercial value, as compared with ten out of twenty-four, or 41.66 per cent. deficient in commercial value, of which five, or 50 per cent., were three per cent. or more deficient. Based on the total number of samples, the three percents were 28.57 per cent. this year against 20.83 per cent. last year..

One each of the following guarantee was analyzed this season with the results indicated and a comparison with last year:— 2-7-0, deficient in ammonia but not in commercial value; last year three samples, all found up to guarantee. 3-10-1, found up to guarantee; none last

year. 4-7½-1, deficient in ammonia but not in commercial value; last year one, deficient in ammonia, but not three per cent, in commercial value. 4-7½-2, deficient in ammonia and potash, and three per cent. in commercial value; last year none. 4-7½-2½, found up to guarantee; last year one of this guarantee, deficient in ammonia, but not three per cent. in commercial value. 4-8-0 deficient in ammonia and three per cent in commercial value; last year none. 4-8-4, deficient in phosphoric acid and potash, but not in commercial value; last year none. 4-10-4, deficient in ammonia and potash, but not in commercial value; last year none. 5-10-0, deficient in ammonia, but not three per cent. in commercial value; last year none.

Two of guarantee 4-10-0, one found up to guarantee, the other deficient in ammonia, but not in commercial value; last year none.

Ten of the guarantee 4-7½-0,—one deficient in ammonia, but not three per cent. in commercial value, two deficient in ammonia, and three per cent. in commercial value, three found up to guarantee, four deficient in ammonia and three per cent. in commercial value; last year six samples of this guarantee:—none up to guarantee, two not deficient in commercial value, one deficient in ammonia and the other in phosphoric acid; one not deficient three per cent. in commercial value but deficient in ammonia; three deficient in ammonia, and three per cent. or more in commercial value.

AVERAGES OF ANALYSES

	1920-1921		1921-1922	
Acid Phosphates	Found	Guaranteed	Found	Guaranteed
Available phosphoric acid	16.53	16.00	17.08	16.00
Special Mixtures (Acid phosphates with Ammonia)				
Available phosphoric acid	8.50	8.10	8.63	8.18
Ammonia	3.68	3.63	4.01	3.92
Complete Fertilizers				
Available phosphoric acid	8.55	8.09	8.68	8.25
Ammonia	3.28	3.07	3.30	3.16
Potash soluble in water	2.77	2.67	2.96	2.93
Cottonseed Meals				
Ammonia equivalent of Nitrogen	7.33	7.01	7.39	7.05
Nitrate of Soda				
Ammonia equivalent of Nitrogen	18.61	18.01	18.79	18.16
Kainits				
Potash soluble in water	13.63	12.91	12.99	12.34
Muriate of Potash				
Potash soluble in water	49.89	49.00	51.43	48.67
Manure Salts				
Potash soluble in water	18.02	20.00	19.46	20.00
Acid Phosphates with Potash				
Available phosphoric acid	10.18	10.00	11.40	10.00
Potash soluble in water	3.06	3.66	2.71	3.00

As was the case last season, there were no samples of American potash received for analysis this season. The averages for the other potash listed above represent the following number of samples:— kainits this year 32, last year 37; muriates of potash this year three, last year the same; manure salts this year two, last year one. Last year we received six samples of acid phosphates with potash, while this year there were only two.

The following table shows the yearly averages of the analyses of fertilizers from the time the Board of Trustees of The Clemson Agricultural College of South Carolina took charge of the fertilizer inspection down to the present time, or from 1891 to 1922, inclusive.—

YEARLY AVERAGE OF ANALYSES FROM 1891 TO 1922, INCLUSIVE.

Season	Acid Phosphates		Acid Phosphate with Potash			Complete Fertilizer				Cotton Seed Meals				Kainits		Muriate Potash		Nitrate of Soda		Acid Phosphate with Ammonia		
	Number of Samples	Available Phosphoric Acid—Per Cent.	Number of Samples	Available Phosphoric Acid—Per Cent.	Potash Soluble in Water—Per Cent.	Number of Samples	Available Phosphoric Acid—Per Cent.	Ammonia—Per Cent.	Potash Soluble in Water—Per Cent.	Number of Samples	Available Phosphoric Acid—Per Cent.	Ammonia—Per Cent.	Potash Soluble in Water—Per Cent.	Number of Samples	Potash Soluble in Water—Per Cent.	Number of Samples	Potash Soluble in Water—Per Cent.	Number of Samples	Ammonia—Per Cent.	Number of Samples	Available Phosphoric Acid—Per Cent.	Ammonia—Per Cent.
1890-1	49	13.02	19	11.84	1.65	173	9.34	2.68	1.96	30	.....	8.37	.....	21	12.75	1	51.96	1	19.22			
1891-2	29	12.92	16	11.50	1.49	112	8.83	2.80	1.95	25	.....	8.21	.....	18	12.51	....	.....	1	18.63			
1892-3	48	12.32	26	11.63	1.22	150	9.00	2.91	1.65	20	2.62	8.40	1.32	20	12.05	....	.....	....	.....			
1893-4	46	13.24	22	12.01	1.51	132	9.27	2.53	1.79	22	2.45	8.64	1.69	17	12.37	....	.....	....	.....			
1894-5	46	13.55	15	12.09	1.66	87	9.42	2.55	1.77	33	2.58	8.19	1.66	19	12.30	....	.....	....	.....			
1895-6	42	13.43	26	11.99	1.39	115	9.31	2.64	1.86	34	2.57	8.45	1.61	16	12.45	....	.....	....	.....			
1896-7	59	13.61	34	12.06	1.61	117	9.55	2.70	1.91	40	2.53	8.69	1.64	22	12.44	....	.....	....	.....			
1897-8	63	13.67	50	11.54	2.06	141	9.15	2.70	1.93	39	2.37	8.39	1.58	20	12.68	....	.....	1	19.23			
1898-9	73	13.74	68	11.77	1.99	134	9.32	2.73	2.21	40	2.76	8.25	1.75	14	12.78	2	51.93	2	18.96			
1899-1900	73	13.58	63	11.58	2.00	124	9.50	2.73	2.13	52	2.27	8.73	1.63	8	12.73	4	50.95	3	19.01			
1900-1	56	14.00	55	11.49	2.65	139	9.40	2.87	2.47	60	2.38	8.55	1.54	12	12.61	2	48.92	3	18.96			
1901-2	45	14.11	51	11.09	2.55	141	9.39	2.84	2.34	49	2.57	7.93	1.63	16	12.85	4	50.54	3	19.03			
1902-3	51	13.74	55	10.94	2.65	139	9.02	2.69	2.42	60	2.27	8.08	1.48	15	12.92	2	50.25	2	19.15			
1903-4	59	14.32	75	11.12	2.81	180	9.12	2.99	2.90	57	2.28	7.92	1.54	11	12.94	7	49.79	6	18.87			
1904-5	81	14.81	82	10.70	3.07	250	9.19	3.12	2.90	62	2.41	7.42	1.54	26	12.54	6	50.49	7	18.73			
1905-6	87	14.95	94	10.97	3.30	375	9.34	3.26	2.98	71	2.42	7.51	1.57	29	12.83	13	50.05	19	18.67			
1906-7	111	14.95	72	10.76	3.21	390	8.91	3.29	3.29	99	2.68	7.32	1.69	30	12.78	13	51.52	20	18.49			
1907-8	91	14.71	64	10.57	3.54	363	9.17	3.01	3.01	114	2.37	7.40	1.61	39	12.91	15	51.04	17	18.33			
1908-9	108	15.02	80	10.55	2.93	396	**9.16**	**3.03**	**3.08**	**115**	2.39	7.27	1.71	45	13.03	14	50.46	21	18.26			
1909-10	159	15.18	74	10.16	3.54	599	8.89	3.31	3.34	133	2.37	7.20	1.67	73	13.10	26	50.96	40	18.10			
1910-11	187	15.39	101	10.62	3.48	942	9.00	3.34	3.33	177	2.46	7.26	1.59	63	13.00	24	50.18	50	18.46			
1911-12	180	15.42	116	10.68	3.25	960	9.07	3.46	3.22	153	2.17	7.54	1.58	69	14.04	47	50.42	76	18.55			
1912-13	176	15.83	85	10.43	3.63	1199	8.86	3.54	3.57	171	2.56	7.37	1.65	69	13.72	29	51.51	48	18.64			
1913-14	229	16.10	91	10.63	3.93	1523	8.79	3.44	3.75	188	2.36	7.28	1.63	146	14.12	65	50.41	92	18.25			
1914-15	150	16.30	69	10.75	2.69	773	8.91	2.96	2.70	90	2.46	7.21	1.56	5	13.51	2	50.17	71	18.56	18	12.09	3.75
1915-16	200	16.40	7	10.72	2.12	385	8.73	3.42	1.49	245	2.31	7.05	1.51	3	13.44	0	.....	33	18.53	555	8.85	3.71
1916-17	118	16.62	1	10.90	3.91	501	8.70	3.31	2.13	202	2.44	6.88	1.54	0	0.00	0	0.00	45	18.69	610	8.76	3.67
1917-18	106	16.71	3	9.99	2.82	521	8.54	3.09	2.25	266	2.33	7.06	1.57	0	0.00	0	0.00	21	18.50	470	8.66	3.59
1918-19	69	16.86	6	10.36	3.58	544	8.82	2.95	2.23	199	2.34	7.06	1.47	0	0.00	0	0.00	11	18.59	357	8.84	3.39
1919-20	81	16.47	14	9.82	3.10	992	8.64	3.27	2.92	94	2.61	7.08	1.51	65	13.82	4	46.78	40	18.47	284	8.52	3.27
1920-21	79	16.53	6	10.18	3.06	411	8.55	3.28	2.77	77	.....	7.33	.....	37	13.63	3	49.89	44	18.61	94	8.50	3.68
1921-22	73	17.08	2	11.40	2.71	434	8.68	3.30	2.96	30	.....	7.39	.....	32	12.99	3	51.43	34	18.79	89	8.63	4.01

NITROGEN

Deficiencies, Sources, Availability

Nitrogen, deficiencies:—In connection with the subject of deficiencies in nitrogen, or ammonia equivalent the following table is interesting. It is to be noted that none of the deficient samples here listed is deficient in commercial value.

Year	Number of Samples	Deficient in One or More Ingredients.	Deficient in Nitrogen only.	Deficient in Nitrogen Per Cent
1905	522	165	61	36.96
1906	655	201	87	43.28
1907	743	153	81	52.94
1908	713	161	77	47.82
1909	805	197	74	37.56
1910	1188	235	79	33.61
1911	1605	393	107	27.22
1912	1689	380	71	18.68
1913	1922	389	190	48.84
1914	2537	534	257	48.13
1915	1227	333	145	43.54
1916	1598	378	130	34.39
1917	1594	477	224	46.96
1918	1474	438	189	43.15
1919	1301	362	160	44.19
1920	1668	519	123	23.70
1921	763	229	22	9.61
1922	722	230	41	17.82

This table shows that of the samples deficient in one or more ingredients, but not deficient in commercial value, a very large percentage are generally deficient in ammonia only. This deficiency amounted in thirteen seasons out of the eighteen listed to over thirty-three and one-third per cent.; two seasons it amounted to nearly fifty per cent.; one season to over fifty per cent. The percentage deficiency this season approaches very closely to that in 1912, when it amounted to 18.68 per cent. against 17.82 this season. Only once in the eighteen years has the deficiency been less than ten per cent., in 1921.

Nitrogen, sources and availability:—The new fertilizer law, effective July 1, 1920, requires the manufacturer of fertilizers to guarantee the per cent. of water-soluble ammonia equivalent of nitrogen within such limits as the Board of Fertilizer Control may prescribe. The limits adopted for this season, and which will be in force again next season, will be found in the first part of this fertilizer bulletin for 1922. This resolution of the board of Fertilizer Control allows a variation of ten points on goods with a water-soluble guaranteed up to and including 33 1-3 per cent., and of fifteen points on goods guaranteed above that figure. For example, goods guaranteed 25 per cent. water-soluble would be passed if found 15 per cent. or 35 per cent.; and

goods guaranteed 50 per cent. water soluble would be passed if found 35 per cent. or 65 per cent.

As was the case last season, the results of this season's determinations of water-soluble ammonia equivalent of nitrogen indicate a large use of highly water-soluble ammoniates, nitrate of soda and sulphate of ammonia and the like.

The following table summarizes the results of the work for this season and last season, and shows the number of samples falling within certain percentage limits and the percentage relation of these figures to the total number of samples examined, this relation being shown in parentheses —

Per Cent. Water-soluble equivalent of Nitrogen.	Number of Samples 1920-1921		1921-1922	
Less than 10	0		0	
10-20	2		0	
20-30	1		0	
30-40	6	(1.19 per cent.)	3	(0.57 per cent.
40-50	10	(1.99 per cent.)	9	(1.72 per cent.)
50-60	47	(9.36 per cent.)	47	(8.99 per cent.)
60-70	87	(17.33 per cent.)	100	(19.12 per cent.)
70-80	145	(20.82 per cent.)	171	(32.69 per cent.)
80-90	155	(30.87 per cent.)	154	(29.45 per cent.)
90-100	49	(9.76 per cent.)	39	(7.45 per cent.)

While these figures speak for themselves, it may not be out of place to say that one would not expect to find an ammoniated fertilizer containing less than ten per cent. of water-soluble ammonia equivalent of nitrogen, inasmuch as organic ammoniates will generally show at least ten per cent., and sometimes more. We have found cottonseed meals with as high as sixteen per cent., that is nearly one per cent. out of a total of six per cent. nitrogen.

There were 523 samples of ammoniated fertilizers examined for water-soluble ammonia equivalent of nitrogen this season of which 330 samples were guaranteed in water-soluble, or 63,09 per cent., while last season there were 502 samples of which 138 were guaranteed in water-soluble, or 27.49 per cent. Although this shows a very considerable improvement over last season, there would still seem to be too many samples on the market which fail to be in conformity with the new fertilizer law, with which the manufacturers have had ample time to familiarize themselves. However, perhaps the fertilizer inspectors sometimes fail to note the water-soluble guarantee, and are, therefore, in part at least to blame for the apparent neglect of the manufacturers.

According to the records of the Secretary of the Board of Fertilizer Control, the 523 samples of ammoniated fertilizers were distributed between 64 companies or subsidiaries, eighteen of which did not guarantee water-soluble ammonia equivalent of nitrogen on any samples aggregating forty-two samples; thirteen companies guaranteed water-soluble on all samples, aggregating forty-four samples; the remaining thirty companies guaranteeing part of their samples, 244.

Last season the 502 samples of ammoniated fertilizers examined for water-soluble ammonia equivalent of nitrogen were distributed between seventy-four companies or subsidiaries, and of these 313 samples were distributed between sixteen companies of subsidiaries, each of which were represented by ten or more samples. Only eighty of these 313 samples were guaranteed in water-soluble ammonia, or 25.55 per cent. Two companies guaranteed about one-half of their samples; two about one-fourth; four about one-third; five about one-sixth; one guaranteed one-fifth; the remainder guaranteed one sample out of thirteen, and two out of twenty-seven respectively.

It seems worth while to quote the following paragraphs from last year's report:— "These results would seem to indicate one of two things, either the manufacturers have not exercised sufficient care in analyzing their raw materials before making their water-soluble ammonia guarantees, or else they have assumed that organic ammoniates would show no water-soluble ammonia, and have based their guarantees entirely on the fact that the inorganic ammoniates, such as nitrate of soda and nitrate of potash, and sulphate of ammonia, are 100 per cent. water-soluble."

"In the future it will be our duty to make public the names of all manufacturers who fail to comply with the fertilizer law requiring the guarantee of water-soluble ammonia equivalent of nitrogen, and of all manufacturers whose guarantees do not fall within the limits prescribed by the Board of Fertilizer Control. As unsatisfactory as are the results this season, they show that the manufacturers can comply with the limits prescribed by the Board of Fertilizer Control, if they exercise reasonable care in making their guarantees and that these limits are liberal."

In the following table are given the names and addresses of the eighteen companies, or subsidiaries, who according to the records of the Secretary of the Board of Fertilizer Control, failed to guarantee water-soluble ammonia equivalent of nitrogen on any of their samples which fell into our hands this season, together with the number of samples analyzed:—

Name and Address of Company or Subsidiary.	No. of Samples
Acme Mfg. Co., Wilmington, N. C.	1
American Cotton Oil Co., Greenville	2
Batesburg Cotton Oil Co., Batesburg	5
Cheraw Oil Mill, Cheraw	1
Etiwan Fert. Co., Charleston	4
Farmers' Fert. Co., Sumter	6
Gilbert Fert. Co., Gilbert	1
Greenville Fert. Co., Greenville	1
Greer Fert. Co., Greer	2
MacMurphy Co., Charleston	7
Merchants' Fert. and Phos. Co., Charleston	1
Orangeburg Fert. Co., Orangeburg	1
Rock Hill Fert. Co., Rock Hill.	1

Name and Address of Company or Subsidiary.	No. of Samples
Southern States Phos. & Fert. Co., Augusta, Ga.	2
Spartanburg Fert. Co., Spartanburg.	2
Trenton Fert. Co., Trenton	2
Victor Cotton Oil Co., Gaffney	1
Westminster Oil and Fert. Co., Westminster	2
	42

In the following table are given the names of the thirteen companies or subsidiaries, all of whose samples were guaranteed in water-soluble ammonia equivalent of nitrogen, together with the number of samples analysed:—

Name and Address of Company or Subsidiary.	No. of Samples
B. G. Pringle & Co., Charleston	1
Catawba Fert. Co., Lancaster	10
Charleston Import & Forwarding Co., Charleston	1
Chatham Chemical Co., Savannah, Ga.	6
Columbia Guano Co., Norfolk, Va.	1
Congaree Fert. Co., Columbia.	10
G. Ober & Sons, Savannah, Ga.	4
Goodrich Guano Co., Richmond, Va.	1
Hartsville Fert. Co., Hartsville	1
Navassa Guano Co., Wilmington, N. C.	5
Powhattan Chemical Co., Richmond, Va.	1
Venable Fert. Co., Richmond, Va.	2
Wulbern Fert. Co., Charleston, S. C.	1
Total	44

In the following table are given the names and addresses of twenty companies, or subsidiaries, of whose goods ten or more samples were received for analysis. There are also given the number of samples of each company, the number of samples guaranteed in water-soluble ammonia, the water soluble ammonia guarantees—(per cent of total ammonia guaranteed) the number of samples which met the requirements of the Board of Fertilizer Control, and the per cent of water-soluble ammonia equivalent of nitrogen found:—

Name and Address of Company	No. of Samples	No. Samples Guaranteed	Water-Sol. Guaranteed	No. Passed	Found Per Cent
Am. Agr. Chem. Co., Charleston	28	20	50	0	Seven—75-79 Eleven—80-87
			66	0	Two—80-89
Am. Fert. Co., Norfolk, Va.	12	6	25	0	Two—78-88 Three—91-95-95
			70	1	73
Armour Fert. Works, Atlanta, Ga.	22	16	75	16	75-91
Ashepoo Fert. Works, Charleston	17	15	50	2	Nine—80-87 One—74
			66	0	85
			85	1	One—67
Catawba Fert. Co., Lancaster	10	10	50	0	Three—79-89
			60	2	Five-81-88
Chiquola Fert. Co., Anderson	11	6	50	4	One—90
			75	0	57
Coe-Mortimer Co., Charleston	18	10	50	0	Eight—72-86
			66	0	Two—86-87
Congaree Fert. Co., Columbia	10	10	50	1	Six—69-77
			37.50	0	76
			75	1	One-98
Fisheries Products Co., Wilmington	23	11	50	2	Three—68-69 Three—72-77 Three—85-95
Georgia Chem. Works, Augusta, Ga.	18	16	25	0	Eleven—91-98 Five—69-88
International Agr. Corp., Spartanburg	10	8	50	0	88, 72, 72
Palmetto Guano Corp., Columbia	14	10	50	0	Four—77-78 Three—80-86
			41.66	0	79
			60	0	83
			66	0	83
Planters' Fert. & Phos. Co., Charleston	18	13	50	4	Five—71-76 One—89
			70	3	54, 65, 73
Richmond Guano Co., Greenville	11	10	33.33	0	Four—66-88
			50	3	Three—81-87
Royster (F. S.) Guano Co., Norfolk, Va.	41	32	33	0	Two—74, 79
			33.33	0	Two—94, 95.
					Six—80-89
					Nine—71-78
					Ten—61-68
			50	1	Two—69-74
Southern Cotton Oil Co., Charleston	20	13	50	6	Two—70-72
			60	0	85
			66	2	One—81
			67.7	1	71

Name and Address of Company	No. of Samples	No. Samples Guaranteed	Water-Sol. Guaranteed	No. Passed	Found Per Cent.
Southern Fert. & Chem. Co., Savannah, Ga.	19	7	33.33	0	Four—76-84
			50	0	81
			60	0	Two—74-80
Sumter Fert. Mfg. Co., Sumter	27	20	60	1	63
			70	19	Four—67-78
					Fifteen—81-84
Swift & Co. Fert. Works, Atlanta, Ga.	17	9	50	0	Two—82, 83
			60	3	Two—77, 84
			80	0	68
			100	0	79
V. C. C. Co., Charleston	38	25	25	0	Two—77, 78
					Four—77, 78
					Five—80-95
					Nine—82-88
			50	0	77
			60	0	Three—85, 89, 93
			75	0	98

While the figures in the foregoing table speak for themselves, it is noteworthy that where the guaranteed water-soluble was below fifty per cent. the greatest discrepancies between the found and guaranteed water-soluble ammonia equivalent of nitrogen appear. It is also worth mentioning that last season the sixteen companies or subsidiaries of whose goods we had ten or more samples, representing 313 samples in all, only 80, or 25.55 per cent. were guaranteed, while this season the twenty companies, of whose goods we had 379 samples, and who each had ten or more samples, 262 samples were guaranteed in water-soluble ammonia, or about 69.13 per cent.

The nitrogen availability standards for the coming season are the same as they have been for the past seven years, and are as follows:—

"1st. The Modified Neutral Permanganate Method of Street is still in force.

"2nd. An unmixed fertilizer material furnishing organic nitrogen must show an availability of 85 per cent. of the total organic nitrogen found on analysis.

"3rd. The water-insoluble organic nitrogen in mixed fertilizers must show an availability of 75 per cent. by Street's method, if this water-insoluble organic nitrogen amounts to one-third or more of the total nitrogen found on analysis."

Five hundred and twenty-three mixed ammoniated fertilizers were examined for water-insoluble organic nitrogen, of which 120 samples were found to contain water-insoluble organic nitrogen amounting to one-third or more of the total nitrogen found on analysis. All of these 120 samples were examined by Street's method and were found up to the requirement of 75 per cent. availability. Last season there were 100 such samples out of 502 mixed ammoniated fertilizers, and all were found up to the requirements. These results are very gratifyind and leave no ground for complaint as to the quality of the organic

ammoniates being used by manufacturers in their mixed goods, at least so far as the goods which have fallen into our hands are concerned. It is evident, however, that there has been a marked falling off in the use of organic ammoniates, and that highly soluble inorganic ammoniates are being much more freely used, on account probably of the high cost of organic ammoniates for fertilizing purposes, due in large measures to their increased use as stock feeds.

Farmers' Samples of Fertilizers:—In addition to the official fertilizer samples collected by inspectors, there have been analyzed this season forty-seven samples for purchasers, as provided for in Section 17 of the new fertilizer law, effective July 1st., 1920.

Waters:—Of the 84 samples of water listed, 12 were sanitary analysis of the Barracks spring and 12 of the standpipe water, regular monthly analyses of the college water supply; 57 were sanitary analyses, and 3 were complete mineral analyses for citizens of the State.

Ores, Minerals, Etc.:—Forty-seven specimens of clays, micas, quartz iron pyrites etc. were received and examined this season, the same in number as last season.

Limestones, Marls, and Lime:—Six samples of materials of this nature were analysed this season, being one more than last season.

Assays for Gold and Silver:—Eight samples were assayed this season as against two last season.

Ashes:—Only one sample was received for analysis this year, and none last year.

Miscellaneous:—The thirty samples listed above consisted of:—one each, abbatoir product, iron ore, corn and cob meal, cattle food alcohol, turpentine, water for oil, denatured alcohol; two each, peat, "raking," silage, check work for other laboratories; three samples, collaborative work with the Association of Official Agricultural Chemists; four soils; seven specimens in cases of suspected poisoning of human beings, as provided for by the laws of the State.

Distribution of the Work:—The fertilizer analyses were made by Messrs. Robertson, Foy and Freeman, the samples prepared for analysis by Mr. L. J. Gunter.

Practically all of the miscellaneous samples were examined by Mr. B. Freeman, except the seven toxicological analyses, which were made by Mr. B. F. Robertson.

All of the nitrogen work, including total, water-soluble, and availability determinations were made by Mr. Robertson, who was assisted in the availability work by Mr. Gunter.

All of the samples of water were analysed by Mr. Freeman, except 17 samples by Mr. Foy and 1 sample by Mr. Robertson. Mr. Freeman made analyses of limestone and the like, also of gold and silver.

It gives me pleasure to be able to say that all of the work has been faithfully and efficiently performed, and that complete harmony and the most hearty co-operation have prevailed throughout the year, as it was my privilege to report last year.

Respectfully,

R. N. Brackett, Chief Chemist.

Report of the State Entomologist

Dr. W. M. Riggs, President, Clemson Agricultural College,

Clemson College, South Carolina.

Dear Sir:

We submit herewith the annual report of the work of the South Carolina State Crop Pest Commission for the fiscal year ending December 31, 1922. For convenience the work is reported under the following headings:

1. Intrastate Nursery Quantantine: This pertains to the regulation governing the transportation or movement of nursery stock within the state of South Carolina.

2. Interstate Nursery Quarantine; This regulates the transportation or movement of nursery stock into the state of South Carolina.

3. Intrastate Sweet Potato Quarantine: This pertains to the regulation of the transportation of sweet potatoes, sweet potato plants and parts of plants within the state of South Carolina.

4. Interstate Sweet Potato Quarantine; This governs the transportation or movement of sweet potatoes, sweet potato plants or parts of plants into the state of South Carolina.

5. Cabbage and Tomato Plant Quarantine.

6. Boll Weevil Work.

7. Mexican Bean Beetle.

8. Pests Threatening South Carolina.

9. Miscellaneous Insects and Diseases.

Due to the increased interest in the development of nurseries within the state, the demands made upon the State Crop Pest Commission for this part of the work were much greater than heretofore. The proper operation of a nursery is a technical business in which one may not expect to succeed until he becomes familiar with the necessary technic. The nurseries in this state during the past year have given us trouble, due to infestation by one pest or another. The principal pests with which we had to deal were scale, root louse, crown gall and root knot. The latter two pests constitute a serious disturbance requiring most careful attention. In operating this service this Commission pursued its well known policy of helpfulness. Sometimes it is necessary in the performance of our duties to cause loss to our growers, but whenever such loss can be avoided by reasonable assistance no efforts are spared to help the nurserymen or the growers of the plants. In the case of scale one of the standard control measures is carried out and in addition to this the trees are fumigated before they are certified. In case of root louse the trees are dipped in a nicotine sulphate solution consisting of a pint of nicotine sulphate, fifity gallons of water and the

soapsuds made by dissolving two pounds of good laundry soap, that does not contain coal tar or naptha, in a little hot water.

In nurseries where crown gall or root knot has not become general but is confined to spots, an inspector of this Commission is on the grounds during the digging period and personally inspects every tree when it is dug and eliminates at that time every tree that shows any sign of being infected with either of these pests.

A list of nurseries active within this state and to which certificates were granted follows:

Greenville Nursery Company, Greenville.
J. P. Taylor, Greer.
R. F. Watson, Greenville.
W. T. Adams, Greenville.
R. Bates, Jackson.
Palmetto Nurseries, Florence.
Evergreen Nurseries, Conway.
M. O. Dantzler, Orangeburg.
F. E. Ellis, Level Land.
W. J. Wilson, Columbia.
H. Mellott, Shelton.
W. M. Altman, Blackville.
J. M. Bell, Walhalla.
Miss Maggie Bell, Walhalla.
J. M. Craig, Pendleton.
R. L. Darnall, Williamston.
W. W. Watson, Orangeburg.
M. H. Hunter, Laurens.
R. D. Mconald, Westminster.
J. W. Wood, Duncan.
Lone Star Nursery, Spartanburg.
Rufus Fant, Anderson.
Pine Hurst Tea Farms, Summerville.
Geo. Baldwin, Columbia.

The greeohouses of the various floral companies of the state are inspected periodically and where it is necessary certificates are issued. This is only required where the greenhouse deals with certain woody shrubs or trees or certain kinds of herbaceous flowering plants.

A list of the greenhouses so inspected follows:

Laurens Street Greenhouse, Camden.
F. F. & F. L. Aichle, Charleston.
Mrs. J. M. Eison, Columbia.
Eau Claire Greenhouses, Columbia.
Chas. A. Moss, Spartanburg.
Miss Annie Addison, Greenville.
Mauldin Floral Company, Greenville.
Greenville Floral Company, Greenville.
Graceland Cemetery and Floral Co., Greenville.
Spartanburg Floral and Truck Co., Spartanburg.
Fant's Greenhouse, Anderson.

The Wales Garden Greenhouse, Columbia
Magnolia Floral Co., Charleston.
Hite Floral Co., Aiken.
Rose Hill Greenhouse, Columbia.
Charleston Floral Co., Charleston.
Carolina Floral Co., Charleston.
DeWitt House, Florence.

Certificates issued to any of these nurseries or greenhouses are consecutively numbered and each nurseryman or shipper is held accountable to this Commission for their use. Unused or mutilated tags must be returned. It is furthermore required that invoices of all shipments moving into this state or within the state be furnished this Commission immediately after stock has been shipped. These invoices are required to show the kind of stock, the quantity, its destination and also the number of certificate in each case under which the shipment is made. These invoices are classified in the office of the Commission, which enables the inspectors to determine without delay the distribution of the output of any nursery shipping into or within the state. Besides this valuable information it serves a still greater purpose whenever an infested shipment is intercepted; this enables the inspectors of the Commission to determine other possible points to which such infestation may have been shipped and which may form possible centers of infestation. In the absence of these invoices it would be practically impossible to locate such points and infestation could spread indefinitely before it would be discovered.

Until there develops a very decided increase in the development of the nursery business within the state we may continue to expect that the bulk of nursery shipments is from outside of the state of South Carolina. The following list of nurseries arranged alphabetically according to states will give one an approximate idea in regard to interstate shipments.

ALABAMA:

Chase Nursery Company, Chase.
Empire Farm & Nursery Co., Baileytown.
Fraser Nursery Co., Huntsville.
Fraser Nursery Co., Inc., Birmingham.
Huntsville Wholesale Nursery, Huntsville.

CALIFORNIA:

California Nursery Co., Niles.

FLORIDA:

Commercial Nursery Co., Monticello.
Howard-Hickory Co., Monticello.
Harlan Farms Nurseries, Paxton.
Interstate Nurseries, Macclenny.
J. Van Lindley Nursery Co., Monticello.
Lamar Pecan Groves, Monticello.
Monticello Nursery Co., Monticello.
Royal Palm Nurseries, Oneco.

Simpson Nursery Co., Monticello.
Florida Nurseries, Monticello.
Summitt Nurseries Bros., Monticello.
Campville Nurseries, Orange Heights.
Glenn St. Mary Nursery Co., Glenn St. Mary.

GEORGIA:

Ashford Park Nurseries, Atlanta
Concord Nurseries, Concord.
Cureton Nursery, Austell.
C. A. Dahl & Co.. Atlanta
Georgia Nursery Co., Concord.
Hogansville Nurseries, Hogansville
LaFayette Nurseries, LaFayette.
Magnolia Nursery, Cairo.
Sigmund Tarnok Co., Inc., Augusta.
Smith Bros. Nursery, Concord.
B. W. Stone Nursery, Thomasville.
Southern Nut Tree Nurseries, Thomasville.
Thomasville Nurseries, Thomasville.
Barrow County Nursery, Atlanta.
Pine Mountain Nursery, Shiloh.
M. W. Reed, Augusta.
J. B. Wight, Cairo
Altamaha Nursery, Ludowitch.
Dept of Horticulture, Athens.
H. G. Hastings Co., Atlanta.
G. M Bacon Pecan Groves, DeWitt
C. C. Dorn Co., Augusta.
J. H. Girardeau, McRae.
Lone Star Gardens, Thomasville.
Carrollton Nurseries, Carrollton.
Dixie Wholesale Nurseries, Marietta.

ILLINOIS:

D. Hill Nursery Co., Dundee.
Vaughn's Seed Store, Western Springs.
Naperville Nurseries, Naperville.

INDIANA:

R. M. Kellogg, Poseyville.

IOWA:

Mount Arbor Nurseries, Shenandoah.
Shenandoah Nurseries, Shenandoah.

MASSACHUSETTS:

R. & J. Farquar Co., Boston.

MARYLAND:

Harrison Nurseries, Berlin.
Franklin Davis Nurseries Co., Millikin.

MICHIGAN:

Chester G. Campbell, Paw Paw.

MISSISSIPPI:

Bechtel Pecan Nurseries, Ocean Springs.
I. E. Bass Pecan Co., Lumberton.
Miss Bannie Keenum, Armory.
Mrs. Sallie Lewis, Starksville.
F. T. Mullikin, Kossuth.
United States Nursery Co., Roseacres.
Oceans Springs Pecan Nursery, Ocean Springs.
Biloxi Nurseries, Biloxi.
Interior Nurseries Co., Perkinston.
A. A. Pigford, Lumberton.
R. I. Viera, Oceans Springs.

MISSOURI:

Neosho Nurseries, Neosho.
Stark Bros. Nurseries and Orchard Co., Louisiana.

NEW JERSEY:

Henry A. Dreer, Riverton.

NEW YORK:

Federal Nurseries, Rochester.
Kelly Bros. Wholesale Nurseries, Danville.
T. S. Hubbard Co., Fredonia.
Jno. Lewis Childs, Floral Park
First National Nurseries, Rochester.
Mayo Nursery Co., Rochester.
H. S. Taylor & Co., Rochester.
Glen Bros., Inc., Rochester.
Woodlawn Nurseries, Rochester
L. W. Hall & Co., Rochester.
W. F. Brow, Rose Hill.
Van Dusen Nursery, Geneva.
F. R. Pierson, Tarrytown.
Green's Nursery Co., Rochester.
Vick & Hill Co., Rochester.
James Vick's Sons, Rochester.
W. T. Smith & Co., Geneva.
Hicks Nurseries, Westbury.
Jackson & Perkins Co., Newark.
T. W. Rice, Geneva.
Lewis Roesch, Fredonia.

NORTH CAROLINA:

Deaton Nurseries, Vass.
Catawba County Nursery, Newton.
Continental Plant Co., Kittrell.
Audubon Nurseries, Wilmington.
W. A. Myatt, Jr., & Co., Raleigh.
Newton Nurseries, Newton.
Valdesion Nurseries, Boston.
Howard-Hickory Co., Hickory.

Killian Nursery, Newton.
Greensboro Nursery, Greensboro.
J. Van Lindley Nursery Co., Pomona.

OHIO:

W. N. Scarff & Sons., New Carlisle.
Fort Payne Nursery Co., Fort Payne.
Wagner Park Nurseries, Sidney.
Ella Baines, Springfield.
Joseph F. Martin Nursery, Painesville.
Great Western Plant Co., Springfield.
Good & Reese Co., Springfield.
Henry Kohankie, Painesville.
Templin-Crockin Bradley Co., Cleveland.
Spring Hill Nursery, Tippecanoe City.
American Rose & Plant Co., Springfield.
Maple Bend Nurseries, Perry.
Miami Valley Nursery, Tippecanoe City.

PENNSYLVANIA:

W. H. Moon Co., Morrisville.
Thomas B. Meehan Co., Dresher.

TENNESSEE:

Howell Nurseries, Knoxville.
Curberland Nurseries, Winchester.
Forest Nursery Co., McMinnville.
Bildad Nursery Co., Smithville.
Tennessee Nursery Co., Cleveland.
Joe Shadow Nursery Co., Winchester.
Southern Nursery Co., Winchester.
Marble City Nursery Co., Knoxville.
Commercial Nursery Co,. Dechard.
Cedar Hill Nursery Co., Winchester.
Chattanooga Nursery Co., Chattanooga.
Oakland Nursery Co., Columbia.
Shahan Bros., Winchester.
Parsley Bros., Smithville.
Washington Heights Nurseries, Knoxville.
John Lightfoot, Chattanooga.

TEXAS:

Munson Nurseries, Denison.

VIRGINIA:

Old Dominion Nurseries, Richmond.
Virginia Nurseries, Richmond.
Titus Nurseries, Waynesboro.

The past season has developed great activity in dealing with certain phases of interestate movement of nursery stock. It has long been known to be a common practice for some nurserymen to make contracts for certain varieties of stock and then fill the order by substituting

other varieties. Generally this act is not discovered until the trees come into bearing, thus causing much disappointment and in some cases material losses. The General Assembly at its last session amended the Crop Pest Act, thereby giving power and authority to the South Carolina State Crop Pest Commission to make, promulgate and enforce rules and regulations to protect purchasers of nursery stock against fraud and misrepresentation. How to deal with this problem has been a matter of discussion by quarantine officials and nurserymen for years and so far there seems not to have been found a practical solution of the problem. We may start out with the assumption that the shipping of varieties other than those called for in the contract is not practiced by the majority of nurserymen who are scrupulous and honorable men. To deal successfully with the unscrupulous element must be based on cooperation between nursery quarantine officers and the national and sectional associations of nurserymen.

In some states an effort is made to eliminate this practice thru the operation of receiving stations having for their ultimate aim the inspection of plants at destination. This Commission is of course not financially able to consider seriously such a plan for this state, even were it deemed the best. In order to meet this obligation imposed upon it by the Legislature the Commission adopted a series of regulations last July providing that all non-resident nurserymen and shippers file with some resident of South Carolina acceptable to this Commission their power of attorney to receive service of process, in case suit is brought against them. At that time the nursery stock market and the convictions of nurserymen were such that the immediate operation of this plan appeared detrimental to the plant interests of South Carolina. At that time there was a scarcity of certain plants which the state needed most while failure to meet this requirement by nurserymen would have created a handicap to our people, that would have been detrimental. In order to compromise this matter for the best interest of all concerned the proxy requirement was made optional, placing the responsibility on the purchaser, the Commission assuming obligation for fraud and misrepresentation only where purchases were made from non-residents who had their representatives in this state to receive service of process. After this entire matter had been gone over with great care the situation gradually composed itself and another season we believe that there will be no difficulty in enforcing a regulation providing for a proxy.

Furthermore the reeuirements made upon local dealers are such that the practices of the unscrupulous tree dealers are becoming hazardous.

Owing to the rapidly developing sweet potato industry in this state it greatly increased the responsibility of this Commission in its effort to protect this industry against the introduction and spread of dangerous insects and diseases. In previous reports we have emphasized the great danger of having introduced into this state the sweet potato root borer, while there are several serious sweet potato diseases against which purchasers of sweet potato plants or sweet potatoes for prop-

agating purpos should be adequately protected. Owing to the fact that such a large part of the sweet potato movement is into the state, this Commission found it necessary to operate the intrastate and the interstate separately. In several instances the wilt had been introduced in the past and every effort is now being made to keep this pest from spreading within the state. It is for this reason that regulations were adopted covering the inspection of the sweet potatoes in the field and in the storage house in fall and winter, in addition to the inspection of the sweet potato plants in the beds before they are sold. The regulations of this Commission governing the transportation and movement of sweet potatoes, sweet potato plants and parts of plants within the state are hereunto appended.

As already stated, a large portion of the plants moved within the state come from points outside of South Carolina. This makes the problem more difficult because it requires that we deal with the sweet potato root borer in addition to the wilt and rots. This Commission makes the same requirements in regard to shipments from other states that it does in regard to potatoes grown and shipped within South Carolina. With the further development of the sweet potato industry and the increased number of sweet potato plants shipped into the state the situation grows more serious and the Commission feels it to be its obligation to enforce these regulations so as to secure the best possible protection for our citizens. Fortunately there is no evidence that the sweet potato root borer has reached South Carolina at any point. A list of shippers of sweet potatoes and sweet potato plants follows:

S. J. Thompson, Greenwood, S. C.
Jas. W. Mellard, Jedburg.
D. F. Jamison, Summerville.
D. F. Holt, Wateree.
G. W., Gignilleat & Son, Seneca.
Hull Plant Farm, Rock Hill.
H. G. Davis, Marion.
J. D. Platt, Georgetown.
J. B. Hill, Ware Shoals.
R. B. Godgion, Williamston.
W. Lykes, Lykesland.
B. Gillespie, Conway.
W. F. Hucks, Conway.
B. H. Martin, Conway.
W. O. Davis, Conway.
W. H. Mixon, Charleston.
A. L. Welch, Charleston.
E. L. Rivers, Charleston.
G. T. Asbill, Ninety Six.
J. W. Andrew, Oswego.
R. Walker Brice. Wedgefield.
Geo. A. Dekay, Georgetown.
J. E. Durant, Lynchburg.
J. Elbert Davis, Davis Station.

Finklea & Ivey, Winona.
L. I. Guion, Lugoff.
L. D. Jennings, Sumter.
Mrs E. L. Kinard, Greenwood.
E. W. Kaminski, Georgetown.
Geo. B. Kirkland, Millettville
J. L. Mayer, Greenwood.
Marion Sweet Potato Storage Co., Marion.
G. H. McCutcheon, Bishopville.
W. Muchison, Dillon.
R. I. Manning, Bishopville.
Mullin Plant Farm, Fort Mill.
S. M. McCoy, Oswego.
Planters Produce & Storage Co., Florence.
E. J. Rhodes, Greenwood.
J. H. Robinson, Oswego.
Dr. Wade Stackhouse, Dillon.
W. M. Sawyer, Johnson.
F. C. Thomas, Manning.
E. A. Terry, Oswego.

Cabbage and tomato plant inspection proceeded in the same manner as heretofore except that an amendment was made to the regulations which is of grat assistance to the large growers in tagging their shipments. This refers especially to the numerous mail order packages which do not conveniently accommodate the standard tag. Arrangements were completed so that there is issued to the grower a rubber stamp containing the necessary wording to comply with the regulations and enabling the shipper to stamp his permit on the package with the least amount of time and labor involved. A list of dealers in cabbage and tomato plants certified by this Commission follows:

R. L. Darnall, Williamston.
D. F. Jamison, Summerville.
Thos. J. Jackson, Orangeburg.
W. Lykes, Lykesland.
Jas. W. Mellard, Jedburg.
Fred M. Martin, Pendleton. z
T. Weller, Columbia.
John Laird, Aiken.
Piedmont Plant Co., Greenville.
Belk & Co., Lake City.
M. D. Aycock, Wedgefield.
W. J. Nunnery, Wedgefield.
J. D. Platt, Georgetown.
T. S. Crawford, Mt. Pleasant.
W. C. Kennerty, Johns Island.
H. J. Ayscue, Mt. Pleasant.
Geo. L. Sands Plant Co., Johns Island.

Johns Island Plant Co., Johns Island.
Peddy Plant Co., Meggett.
Rivers Wholesale Plant Co., Meggett.
Geo. Sands, Rantowles.
C. J. & C. Whaley, Martins Point.
F. W. Towles, Martins Point.
W. R. Hart, Martins Point.
H. S. Whaley, Martins Point.
Meggett Plant Co., Meggett.
J. C. Wilson Co., Meggett.
C. F. Hethington Co., Meggett.
Carr-Carlton Co., Meggett
S. M. Gibson, Younges Island.
W. C. Geraty Co., Younges Island.
E. B. Commins, Meggett

Owing to the vital importance of the boll weevil problem in the welfare of this state every possible assistance was given during the past year in the control of this pest. In order to make this work as effective as possible the Crop Pest forces joined their efforts with those of the Experiment Station, the Extension Division and Agricultural Department. Every phase of the problem which gave promise in helping to alleviate the situation in 1922 was canvassed. The special feature of this work covered by the Crop Pest Commission was that of distribution thruout the several sections of the state, which is an important factor in estimating the probable damage and in advising proper procedure to meet the situation. The occurrence of this pest is always more or less erratic, not only with reference to the different sections of the state, but with reference to communities and localities as well.

Possibly the most important service rendered in this connection was the assistance given to farmers to enable them to determine infestation from time to time as a guide to poisoning as well as cultural operations.

The specialists of this Commission assisted shippers of cotton seed in the fumigation to enable them to ship their seed to sections where quarantines are still in force.

The surprise of the season was the comparative inactivity of the Mexican bean beetle, introduced in the fall of 1920. This pest came into the state at a point in upper Oconee County, covering only a few square miles late in the fall of 1920. In 1921 it swept over Oconee, Anderson, Pickens and parts of Greenville County. Judging from its ability to spread over a great area of country exhibited in 1921, this Commission was prepared to expect that this pest would cover a large portion of the Piedmont section in 1922. The spread during this past season however is practically confined to the four upper counties of Oconee, Pickens, Anderson and Greenville.

As reported in our last report, the Mexican bean beetle should be regarded as a most serious pest threatening for the time being at least the successful production of our most important leguminous crops. Unfortunately no satisfactory method of controlling this pest has yet been

devised. The legumes have not the resistance to arsenicals as cotton and other hardier plants.

Progress has been made in the control of this pest by the use of a mechanical mixture of calcium arsenate and hydrated lime. These investigations are being continued in the hopes of finding a simple, practical and economic control measure.

Among the serious pests threatening to invade this state sooner or later are the pink boll worm, the sweet potato root borer, the European corn borer, the Japanese beetle, the browntail and gypsy moth. There are numerous other serious pests in foreign countries that must be guarded against, but the list here given constitute those species which are already in the country and are spreading over more territory from year to year. The pink boll worm situation at this time is probably more encouraging than it has been heretofore. Due to the splendid efforts of the Federal Horticultural Board and the excellent cooperation given by the states, it appears that this pest was kept from spreading in 1922. It is the ultimate aim to eradicate this species from Texas and Louisiana. The first step in the eradication of the pest must necessarily be to prevent its spread, because no eradication would be possible so long as the spread cannot be controlled. Superb efforts are warranted on the part of the Federal and State agencies in preventing the spread of this pest and ultimately to accomplish its eradication, as this species is probably the worst cotton pest in existence. Were this pest to spread over the cotton belt and add its damages to that already sustained by the boll weevil it would create a condition in cotton production gloomy indeed.

The sweet potato root borer made no progress in 1922, while eradication work carried on by the Federal Government in cooperation with the states warrants the most active support. Altho the sweet potato weevil has wings, so far it has made very little active use of them and does not depend on its wings in its migratory movements. This must be regarded as an importan advantage in any efforts at its eradication.

The brown tail and gypsy moth are practically confined to the New England area and have made no important progress toward the South, while the Japanese beetle has been confined to a small area in New Jersey and Pennsylvania, bordering on the Delaware River.

The European corn borer situation is hardly as satisfactory, as this pest has spread westward and southward more or less. Besides the restricted area in eastern New England and the area in eastern New York heretofore reported, it has spread over western New York along a narrow belt along the shore thru northern Ohio.

RECOMMENDATIONS: Owing to the adoption of the new regulations requiring more frequent and thorough inspections, very important information has been secured in regard to diseases. This information does not cover only localities where diseases have been found to exist but it also enables the officers of the Commission to determine the probable sources of these infestations in other states. Altho the

transportation of cabbage and tomato plants is more or less local, the shipment of nursery stock from other states is very heavy and comes from many miscellaneous sources. The heaviest movement of of sweet potato plants is from Florida and Georgia. The duplicate invoice requirements will be extended so as to cover the shipment of sweet potato plants and sweet potatoes for propagating purposes, because the work of the past year more than ever before has shown the great value of having this information on file. In nursery inspection work we found six cases where the trees were infested with crown gall. Whenever such a shipment is discovered the duplicate invoice file is consulted to determine to what other points in the state such nursery has made shipments, because when a nursery has shipped crown gall to one point there is good ground for suspicion that this disease may have been carried in stock shipped to other points. In this manner the source of the trouble can be determined and necessary quarantine measures instituted to prevent further shipments from such sources. In two of the nurseries root knot was found. In one case it was localized and all stock that showed signs of infestation was destroyed, while the disposition of the other case has not yet been determined, as the stock has not yet been dug up for transportation.

In our sweet potato inspection service we have to deal with several of the injurious diseases and the situation is becoming more serious. The inspction records show ten cases of black rot, two cases of dry rot, one of soft rot, one of Southern blight and four of wilt. These cases are now being carefully investigated and the growers from whom plants have been shipped in other states are under investigation in cooperation with the authorities of the state of origin. This situation has been the principal inducement to make the requirements of sweet potato shippers outside of the state the same as those inside of South Carolina. It is the intention of this Commission to enforce these regulations with the greatest thoroughness, even if it amounts to practically the entire prohibition of sweet potato plants from points outside of the state. In view of the situation here described it becomes apparent that home production of nursery stock and other plants for propagating purposes should receive every encouragement. Nursery development in the state is progressing, but altogether too slowly, while there is no reason why this state should not produce the great majority of its own sweet potato, cabbage and tomato plants for propagating purposes.

It is recommended therefore that this work be prosecuted along the lines already developed and here presented; and that the new regulations adopted for the further protection of our citizens be enforced with the gratest possible thoroughness.

The duties required under the Bee Disease Act were carried on in close cooperation with the Extension Service, Mr. E. S. Prevost making the required inspections. This service is divided into two phases; first, the inspection of bee yards within the state whenever there are reasons to suspect the occurrence of any of the brood diseases; second,

the inspection of bee yards to enable them to make shipments of queen bees and package bees to their markets governed by laws of other states. The requirements of this service are continually increasing, owing to the very rapid development of the beekeeping industry in this state. Our bee yards of the state must be protected against the introduction of the destructive bee diseases which occur practically in every state except South Carolina. The fact that these disases have not been found in South Carolina gives especial responsibility to this Commission. The activities in queen rearing are greatly increasing, while there is every reason to believe that the package bee business alone will develop into an important source of revenue in the future.

It is recommended that this phase of the service be continually supported to protect beekeeping as a source of important food supply, besides a valuable revenue to the state under boll weevil conditions.

Respectfuly submitted,

A. F. CONRADI, State Entomologist.

H. W. BARRE, State Pathologist.

Regulations of the South Carolina State Crop Pest Commission Governing the Transportation and Movement of Sweet Potato Tubers, Sweet Potato Plants, Vines, Cuttings, Etc., Into and Within the State of South Carolina.

Reg. SP.-1. All persons desiring to sell, barter or give away sweet potatoes for seed purposes or who expect to bed sweet potatoes for the purpose of selling plants must have made at least three inspections by the State Crop Pest Commission and must file an affidavit made out in proper form before a permit shall be issued.

First Inspection: The first inspection shall be made while the crop is in the field, preferably the latter part of August and during September. During this inspection especial attention is given to stem rot or wilt.

Second Inspection: The second inspection is made sometime during storage. During this inspection especial attention is given to black rot.

Third Inspection: This is an inspection of the beds and is made soon after the plants come up.

Other inspections may be made when in the judgment of the Commission it is deemed necessary.

Reg. SP.-2. An affidavit is required setting forth;

(a) That the sweet potatoes were or will be dipped before bedding in a solution of corrosive sublimate (bichloride of mercury) for ten minutes. This solution is made up by adding one ounce of corrosive sublimate to eight gallons of water.

(b) That the sweet potatoes were or will be bedded in soil that had never been planted in sweet potatoes, That the bed is well drained

and located so as to not come in contact with drainage water from barn yards, sweet potato houses and sweet potato banks.

(c) That all frames which had been used for bedding sweet potatoes before were or will be cleaned out thoroughly and disinfected with a solution of formaldehyde made up by adding one pint of formalin to thirty gallons of water. That all tools employed were or will be disinfected with a solution of the same strength.

(d) That no stable manure used in supplying heat for the bed has or will be taken from stock which has been feeding on sweet potatoes or sweet potato vines.

Where manure is used it should not be mixed in with the soil with which the potatoes are covered.

Reg. SP.-3. Sweet potatoes transported into the state of South Carolina from Florida, Georgia, Alabama, Mississippi, Louisiana or Texas must be accompanied by a sweet potato permit issued by the South Carolina State Crop Pest Commission. This regulation will apply to other states that may become irfested with sweet potato root borer. (Cylas formicarius, Oliv.)

This permit is issued after such shipments have been certified to by a qualified official as to their freedom from sweet potato root borer.

These regulations to be in effect on and after September 1, 1922.

Report of the State Veterinarian

November 1, 1922.

Dr. W. M. Riggs, President, Clemson Agricultural College,
Clemson College, South Carolina.

Dear Sir.

I have the honor of submitting herewith a report of the Clemson College Live Stock Sanitary Office and the Bureau of Animal Industry, U. S. Department of Agriculture, cooperating, for the period from January 1, 1922 to October 31, 1922, inclusive.

The principal functions of this office are Tick Eradication, Tuberculosis Eradication, and Hog Cholera Control. In addition to these we also investigate, treat and recommend measures for the control and eradication of all reported conditions in livestock that are of a contagious, infectious or communicable nature.

TICK ERADICATION.

The principal section of the State where cattle ticks are still present is in the coastal-plain region. Satisfactory results were obtained this year in those counties and areas where the stock-law was observed, but as the law contains no provision delegating special authority for its enforcement, in a great many section no effort was made on the part of the livestock owners to confine their stock to their premises, and as a result we could not conduct our work as satisfactorily as desired. It is thought, however, that a larger percent of the farmers will arrange to observe the law next year; if so, it will enable us to accomplish even better results than we did this season.

The beneficial effects of Tick Eradication are being reflected in those sections where it is now safe to import the better breeds of cattle of both beef and dairy types, and the farmer who has taken advantage of the situation and has established a herd of beef or dairy cattle is the one who is feeling less the effects of the cotton boll weevil, and the general financial depression.

We feel safe in making the prediction that within a very few years cattle raising will be one of our principal industries.

TUBERCULOSIS ERADICATION

When this branch of our work was inaugurated during the year 1917 very little interest was manifested on the part of cattle owners in having their herds tested to determine the presence or absence of this dread disease, the importance of doing so, however, has increased each year, and at this time it is impossible for us to answer promptly the demands being made.

During the past year the tuberculin test was applied to 1,054 herds, containing 19,398 cattle, 217 of which reacted to the test and were disposed of in accordance with the State laws. Since the inauguration of the work (Nov. 1917) a total of 2,633 herds containing 54,910 cattle have been tested, 849 of which reacted to the test.

At this time 88 herds containing 2,853 cattle have been accredited in accordance with the Accredited Herd Plan rules and certified to as being free of tuberculosis; 952 herds containing 12,651 cattle have passed one successful test and are in process of Accreditation; and a total of 2,114 herds containing 19,507 cattle are under our supervision.

The question no longer being in doubt as to the transmissibility of bovine tuberculosis to the human, its eradication from our live stock is of paramount importance, from a public health as well as an economic standpoint, and no dairy products should be consumed unless same are from cattle known to be free from tuberculosis. Several cities in the State passed ordinances during the past year forbidding the sale of dairy products within such cities unless same were from cattle that had passed a successful tuberculin test and it is hoped that all other cities will do likewise and thus protect their citizens from the possibility of contracting tuberculosis from this known means of infection as well as guaranteeing them pure wholesome dairy products from healthy cattle.

HOG CHOLERA CONTROL

While hog cholera was found in several sections of the State during the past year, yet it is still most prevalent in the southern and eastern counties where the hogs are permitted to roam at large to a greater or less extent, depending upon the observance of the stock law.

The farmers did not protect their hogs with the preventive treatment as they should and as a consequence we had a few serious outbreaks, but as we have an efficient force of veterinarians stationed at advantageous points in the southern and eastern sections of the State, the outbreaks were soon under control. Our veterinarians are stationed at the following points: Denmark, Allendale, Walterboro, St. Matthews, Orangeburg, Kingstree, Georgetown, Conway, Marion and Columbia.

The following is a summary of hogs treated under our supervision against cholera during the past year and the methods employed:

Serum alone	1,795
Serum and Virus	58,567
Serum and bacterins	108
Serum, virus and bacterins	390
Bacterins alone	140
Total	61,000

INVESTIGATIONS OF OTHER DISEASES

In addition to our major functions, viz: Tick Eradication, Tuberculosis Eradication and Hog Cholera Control, this office is charged with the duty of safe-guarding the livestock industry of the State from all contagious, infectious and communicable diseases, therefore, we are frequently called upon to investigate and treat many diseases of all classes of livestock. During the past year we have investigated the following diseased conditions, some of which are not infectious or contagious:

Cattle—Abortion, 2; abscess, 1; blackleg, 2; bloat, 1; cow pox, 1; dermatitis, 2; dietetic, 13; enteritis, 4; emaciation, 3; forage poisoning, 11; gastritis, 1; hemorrhagic septiciemia, 19; indigestion, 10; impaction, 2; laryngitis, 1; malnutrition, 4; metritis, 7; mammitis, 7; parasitism, 22; parturient paresis, 15; pneumonia, 1; peritonitis, 1; poisoning, 6; pharyngitis, 1; rabis, 7; tick fever, 15; tranumatism, 9; uricaria. 2.

Swine—Auto-intoxication, 1; botulism, 10; china-berry poisoning, 2; choke, 1; cholera, 433; constipation, 6; dietetic, 44; diarrhoea, 1; dermatitis, 1; enteritis, 1; foot rot, 1; hemorrhagic septicemia, 14; laminitis, 4; nephritis, 1; necrotic enteritis, 3; necro-bacillosis, 2; parasitism, 105; paralysis, 9; pharyngitis, 1; pneumonia, 19; poisoning, 21; rheumatism, 1; rhinitis, 1; rabies, 2; stomatitis, 1; tetanus, 2; toxemia, 1; abortion 1; traumatism, 14; tuberculosis, 4.

Horses and Mules.—Botulism, 1; canker, 1; colic, 4; dietetic, 4; emphysema of lungs, 1; impaction, 1; indigestion, 2; influenza, 3; malnutrition, 2; rheumatism, 1; rabies, 1; rhinitis, 1; traumatism, 7; tumors, 3.

Sheep and Goats.—Hemorrhagic septicemia, 2; parasitism, 5.

Dogs.—Botulism, 2; black tongue, 1; distemper, 3; parasitism, 1; poisoning, 1; rabies, 1; stomatitis, 1; traumatism, 1. Also nuremous cases of "fight disease."

Poultry.—Cholera, 1; entero-hepatitis, 2.

In many instances it is necessary for our veterinarians to visit premises when it is suspected that the livestock therein are diseased, also make sanitary surveys to ascertain conditions that might tend to spread disease. They are consulted on numerous occasions by liestock owners as to the best means and methods for handling livestock problems and thus render valuable assistance in the development of the livestock industry. Our activities along these lines during the past year are shown as follows:

Consultations and interviews	15,040
Investigations on call	4,538
Sanitary surveys	1,745
Farms visited	6,283

Our veterinarians traveled a total of 52,582 miles by rail and 113,261 miles by other means in making the above investigations and observations.

Numerous inquiries pertaining to livestock diseases and conditions are received and answered by letter from the Columbia office, also valuable information is given live stock owners through the distribution of bulletins, pamphlets, etc.

SERUM, VIRUS AND BIOLOGICS DISTRIBUTION

This office carries a large stock of Anti-Hog Cholera Serum, Virus and Veterinary Biologics on hand at all times, which are furnished the citizens of the State at cost. During the past year the distribution of these products were as follows:

	Mils	Value
Anti-Hog Cholera Serum	3,237,875	$37,869.20
Hog Cholera Virus	156,130	1,823.38
*Biologics	11,514 (doses)	1,181.75
Syringes, etc.		312.38
Total		$41,186.71

* The biologics distributed from this office are used for the prevention of hemorrhagic septicemia (cattle and swine), mixed infection (swine), black leg (cattle), and rabies (dogs).

DEPUTY STATE VETERINARIANS.

The arrangement perfected last year whereby the practicing veterinarians of the State were commissioned as Deputy State Veterinarians to assist this office, when necessary, in the control and eradication of contagious and infectious diseases in their respective territories, proved so satisfactory their commissions were renewed for another twelve months, effective July 1, 1922. The locations of the Deputy State Veterinarians and Assistants State Veterinarians are such they can answer calls to all sections of the State on short notice and enables us to locate, control and eradicate diseased conditions promptly.

COLUMBIA LABORATORY.

Our laboratory has been in full operation scarcely a year, yet it has proven its worth many, many times during this period. We have not only been able to confirm diagnoses made by our field men, but we have

in many instances properly diagnosed conditions that we could not have done otherwise.

In addition to the work conducted by our Columbia laboratory we hope to start research work at an early date at the College Experiment Stations, to ascertain the most practical methods for controlling and eradicating parasitic diseases from the different classes of livestock.

Since its establishment 261 examinations and investigations have been made in the laboratory. Of these, 132 were investigations of cattle diseases, 65 of hogs, 27 of chickens and turkeys, 14 of dogs, 11 of horses and mules, 9 of sheep and goats, and 3 of rabbits.

The diseased conditions for which these examinations and diagnoses were made were as follows:

Parasitic dieseases, 81; infectious abortion, 31; hemorrhagic septecemia, 24; hog cholera, 19; diseases of udder and milk, 16; botulism, 13; rabies, 11; coccidiosis, 10; tuberculosis, 7; abscesses, 6; necrotic enteritis, 4; poisoning, 4; eczema, 3; entero-hepatitis, 3; scabies, 3; black leg, 2; tetanus, 2; glanders, 2; vent gleet, 2; roup, 8; chicken cholera, 2; "fright disease," 2; osteotorosis, 2; actinomycosis, 2; tumor, 1; cow pox, 1; keratitis, 1; lymphangitis, 1; pneumonia, 1; paralysis, 1; coryza, 1; emphysematous necrosis, 1.

TICK ERADICATION.

U. S. Bureau of Animal Industry Expenditures.

	Salaries:	Incidentials:	Total:
Jan. 1, 1922, to Oct. 31, 1922,	$36,457.83	$8,341.14	$44,798.97

Salaries: Expenditures under this heading include salaries of supervising veterinarians, a clerk, and agents in tick eradication.

Incidentals: Expenditures under this heading include traveling expenses of supervisiong veterinarians, agents in tick eradication, and maintenance of office in Columbia, S. C.

State Expenditures.

	Salaries:	Incidentals:	Total:
Jan. 1, 1922, to Oct. 31, 1922, inclusive	$11,068.98	$2,944.96	$14,015.94

Salaries: Expenditures under this heading include salaries of cattle inspectors and one clerk.

Incidentals: Expenditures under this heading include chemicals (for preparing arsenical solution to disinfect cattle), utensils and containers for same, printing regulations, quarantine and permit books, disinfection notices, etc.

The following statement shows expenditures from various sources from 1907 to October 31, 1922, inclusive:

Expenditures for Tick Eradication in South Carolina.

	U. S. Dept. of Agri.	Clemson College	State Appropriation	County Appropri'n
1907	$ 5125.00	$ 1,860.00	.....	.....
1908	15,207.00	4,535.00	.....	.....
1909	19,367.00	8,524.00	.....	.....
1910	15,915.00	9,960.00	.....	.....
1911	12,674.00	10,051.00	.....	.....
1912	14,537.00	8.308.00	.....	.....
1913	16,146.00	9,369.00	.....	$1,083.00
1914	23,143.00	1,497.00	$29,994.31	.....
1915	35,479.84	.....	29,999.99	.....
1916	38,598.72	.....	30,000.00	.....
1917	64,811.65	.....	30,000.00	.....
1918	74,102.77	.....	29,997.50	.....
1919	63,947.29	.....	30,000.00	.....
1920	35,650.36	.....	20,000.00	.....
1921	36,802.79	.....	19,978.68	.....
To Oct. 31, '22	44,798.97	.....	14,015.94	.....
Totals	$516,306.39	$54,104.00	$233,986.42	$1,083.00

LIVE STOCK SANITARY CONTROL WORK.

U. S. Bureau of Animal Industry Expenditures.

	Salaries:	Incidentals:	Totals:
Jan. 1, 1922, to Oct. 31, 1922, inclusive	$10,827.47	$4,411.11	$15,238.58

Salaries: Expenditures under this heading include salaries of six veterinary inspectors and one clerk.

Incidentals: Expenditures under this heading include traveling expenses of veterinary inspectors, office rent, telephone charges, etc.

State Expenditures.

	Salaries:	Incidentals:	Totals:
Jan. 1, 1922, to Oct. 31, 1922, inclusive	$28,398.05	$9,302.10	$37,700.15

Salaries: Expenditures under this heading include salaries of veterinarians and assistant to veterinarians.

Incidentals: Expenditures under this heading include traveling expenses of veterinarians, office rent, telephone and telegraph charges, office supplies, laboratory equipment, other equipment, supplies, etc.

The following statement shows expenditures from the year 1918 to October 31, 1922, inclusive:

Year.	U.S. Dept. of Agri.	State Appropriation.	Total.
1918	$ 3,243.81*	$ 4,395.11	$ 7,638.92
1919	7,418.80*	9,954.56	17,373.36
1920	13,325.56	30,000.00	43,325.56
1921	15,596.24	48,985.51	64,581.75
To Oct. '22, inclusive	15,238.58	37,700.15	52,938.73
Totals	$54,822.99	131,035.33	$185,858.32

* These amounts do not include the U. S. Dept. of Agriculture's expenditures in hog cholera work in South Carolina for the year 1918, or the first nine months in 1919, as this office has no record of the expenditures made by the U. S. Dept. of Agriculture for hog cholera control work in South Carolina prior to October 1, 1919.

FORCE IN LIVE STOCK SANITARY WORK.

(Paid jointly by State of South Carolina and U. S. Dept. of Agri.)

Veterinary Inspectors—

W. K. Lewis, Inspector in Charge and Ctate Vet., Columbia, S. C.
L. S. Baer, Columbia, S. C.
Z. C. Boyd, Columbia, S. C.
P. J. Gallagher, Columbia, S. C.
Clarke Hedley, Conway, S. C.
E. E. Lent, Columbia, S. C.
*M. G. Smith, Orangeburg, S. C.
J. R. Urich, Columbia, S. C.
A. J. Wahn, St. Matthews, S. C.

Assistant State Veterinarians—

M. L. Boyd, Walterboro, S. C.
H. S. Brundage, Georgetown, S. C.
E. T. Fisher, Columbia, S. C.
H. B. Hood, Kingstree, S. C.
W. D. McCormack, Conway, S. C.
R. A. Mays, Clemson College, S. C.
F. K. Peterson, Columbia, S. C.
J. H. Rietz, Columbia, S. C.
S. D. Shoulkin, Allendale, S. C.
S. M. Witherspoon, Jr., Marion, S. C.
R. K. Donly, Clerk, Columbia, S. C.
George Smith, Clerk, Columbia, S. C.
Margaret Robertson, Clerk, (Stenog.-Typewriter) Columbia, S. C.

Assistants to Veterinarians—

J. O. Ackerman, Cottageville, S. C.
A. M. Addison, Cottageville, S. C.
J. E. Bailey, Jamestown, S. C.

D. E. Benton, Walterboro, S. C.
E. W. Beverly, Marion, S. C.
William Bivens, Ravenel, S. C.
G. S. Clark, Whitehall, S. C.
B. A. DuBois, Frogmore, S. C.
D. H Heyward, Bluffton, S. C.
R. H. Hudson, Ridgeway, S. C.
J. J. Jackson, Awensdaw, S. C.
E. J. Jenkins, Edisto Island, S. C.
L. C. Lachicotte, Jr., Brook Green, S. C.
C. O. McCormack, Ridgeland, S. C.
C. P. McTeer, Yemassee, S. C.
A. G. Mitchum, Bethera, S. C.
J. P. Raymond, Hardeeville, S. C.
J. M. Rowell, Bluffton, S. C.
W. T. Rowell, Nichols, S. C.
J. P. Sauls, Lake City, S. C.

Agents in Tick Eradication—

W. M. Barnwell, Younges Island, S. C
J. S. Baskin, Summerton, S. C.
J. M. Boyd, Conway, S. C.
M. C. Butler, Loris, S. C.
J. Y. Clark, Eadytown, S. C.
G. S. Cuthbert, Summerville, S. C.
H. L. Easterlin, Seabrook, S. C.
S. P. Elliott, Gallivant's Ferry, S. C.
W. F. Gaillard, Summerton, S. C.
J. E. Gillis, Kingstree, S. C.
W. H. Harrison, Varnville, S. C.
G. W. Hill, Ridgeville, S. C.
J. C. Hoats, Walterboro, S. C.
W. H. Jones, Kershaw, S. C.
J. C. Kinsey, Awensdaw, S. C.
J. D. Limehouse, Summerville, S. C.
V. E. McCormack, Ridgeland, S. C.
Theodore Malphrus, Ridgeland, S. C.
M. B. Marvin, Beaufort, S. C.
A. A. Patterson, Jr. Walterboro, S. C.
C. C. Strobel, Ridgeville, S. C.
B. H. Vereen, Burgess, S. C.
B. L. Walpole, Yonges Island, S. C.
S. H. Williams, Georgetown, S. C.
F. H. Worthington, Frogmore, S. C.
E. E. Wyndham, Bonneau, S. C.

Cattle Inspectors—

L. M. Alsbrooks, Wilson, S. C.
H. F. Beach, Walterboro, S. C.

E. A. Boynton, Green Pond, S. C.
Daniel Buckley, Moultrieville, S. C.
C. L. Crawley, Hilton Head, S. C.
E. E. Easterlin, Ashton, S. C.
E. W. Goodwin, Ritter, S. C.
H. C. Gore, Longs, S. C.
W. D. Gregorie, Yonges Island, S. C.
O. S. Heape, Jr., Summerville, S. C.
R. B. Hills, Edisto Island, S. C.
D. G. Hinson, Conway, S. C.
E. J. Hotchkiss, Daufuskie Island, S. C.
F. M. Johnson, Ashaw, S. C.
E. K. Moore, Mt. Pleasant, S. C.
J. H. Pepper, Mt. Pleasant, S. C.
J. E. Riley, Okatie, S. C.
W. B. Skilling, Bellinger, S. C.
G. F. Sullivan, McClellanville, S. C.
W. C. Walker, Pritchardville, S. C.
J. E. Wilson, Columbia, S C.
**J. M. Leaphart, Clerk, Columbia, S. C.

* M. G. Smith, veterinary inspector, is also paid part salary by Orangeburg County.

** J. M. Leaphart and J. E. Wilson, clerks, are paid out of Hog Cholera Control Reinvestment Fund.

Respectfully Submitted,

W. K. LEWIS,

Inspector in Charge and State Veterinarian.

Report on Clemson College of the Investigating Staff of Experts to the Legislature Committee on Economy and Consolidation

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Scope of Activities:

Clemson Agricultural College is not merely a state supported institution of higher learning, as is believed by many well informed intelligent people of the state, but carries on very diverse activities, some only remotely related to educational work as the term is usually interpreted. The principal activities of the institution may be roughly classified as follows:

1. Work of College Proper. This consists of instruction in engineering, agricultural, and textile work and in other subjects usually taught in a technical school.

2. Research Work: This consists of experimental and other research work, especially in agriculture, for the purpose of discovering facts and principles hitherto unknown and of disseminating them in such fashion as to make feasible their widest possible use in actual practice. For the purpose of this work the grounds at Clemson College are used and exeriment stations have been established in the Pee Dee section at Florence and in the coast section at Summerville.

3. Extension Work: This work consists of carrying to the farmers of the state through county agents, through bulletins and press articles, and through other means the greatest possible amount of information relating to the best practice with regard to crop rotation, soil fertility, means of combating insect pests, and other agricultural matters.

4. Live Stock Sanitary Work: This consists of certain work in the field undertaken for the purpose of controlling and preventing epidemic and other diseases among live stock.

5. Fertilizer Inspection: This work consists of the collection and analysis of fertilizers offered for sale in the state and the dealing with violation of laws relating to the manufacture and sale of fertilizers through prosecution of offenders or other means. Only in the broadest and vaguest sense can this be considered as educational work: in essence it is law enforcement work, though of an agricultural nature.

6. Other Activities: The college also undertakes voluntarily or in accordance with law several other activities such as the manufacture

and distribution of serum for the control of hog cholera, the slaughter of diseased stock, tick eradication work, and the control of insect pests.

For the purpose of carrying on the above activities the administrative officers have found it advisable not to attempt to do all the work from Clemson College. As is mentioned above, experiment stations have been established at Florence and Summerville. In connection with live stock sanitary work and certain inspection work, district offices with scientific and clerical staffs of their own have been established at Florence, Aiken, and Spartanburg.

The location of the school at Clemson College also enforces upon the institution the undertaking of a work of unusual activities. Owing to the fact that the school is located in the open country the college has been compelled to provide dormitories, a mess hall for students, housing and hotel facilities for the faculty and other employees, a water and sewerage system of its own, a heating and lighting plant, and even a highway system with a maintainance force. In effect the President is not only the head of an educational institution of considerable size, but is also the mayor of a small but very active muncipality and the director of extension research, and law enforcement activities that cover the whole state with considerable thoroughness.

Management and Internal Organization:

The Board of Trusteees at Clemson Agricultural College is made up of thirteen members, six of whom are elected by the Legislature and seven of whom are appointed in accordance with the will of Thomas G. Clemson, which named seven of the original trustees and provided that as vacancies occur the remaining non-elected members should name their successors. The Board of Trustees determines policies and either as a whole or through its committees passes upon certain executive matters; the administration of the diverse activities of the college, however, is in the hands of the President who, as a matter of fact, takes an active, if unofficial part also in the determination of policies.

Whether the management of such an institution as Clemson Agricultural College, supported for the most part by public funds, should be placed in the hands of a Board of Trusteees the majority of whom are not selected through any state agency is a matter of policy to be determined by the Legislature and the electors. Without question the constitution of the Board is the cause of more or less unfavorable criicism. Equally without question the amount of unfavorable criticism has been held to a minimum through the selection of a high type of men by successive trustees under the terms of the bequest and by the policies followed by the Board as a whole; it appears that as a rule the seven trustees have previously been endorsed by the people through their selection for public office and command the confidence and respect of the people of the state, while additional protection is given by the law providing that no money can be expended unless it is authorized by a vote of at least nine of the members of the Board. A weak or arbitrary board would probably lead to an immediate and overwhelm-

ing demand for a change in the form of management. There seems to be no doubt that the state can at any time make it impossible for the College to continue on the present scale by wihholding its support; the income derived from the original bequest and the rental value of the lands is inconsequential in comparison with the total receipts, while the direct state appropriations and the amounts received from the federal government on condition that they be expended under the direction of the state make up by all odds the largest part of the income. It may be pointed out also that it is not clear in view of the provisions of Thomas G. Clemson's will whether the state could be given a clear title to the grounds and buildings under a different form of management; some lawyers hold, however, that legal means of effecting a change exist

The President has built up the type of internal organization for administrative purposes which is generally considered most effective in securing results, most economical as to cost, and most simple in operation. As is implied above the President is responsible to the Board of Trustees for all administrative matters. Seven Directors, in addition to the Treasurer and Secretary of the Fertilizer Inspection Analysis, are at the head of sub-divisions and constitute the President's unofficial advisory cabinet; each Director is responsible for the operation and expenditures of his department and the teachers and other employees deal with him directly instead of with the President.

Receipts and Expenditures:

The financial statement of such an institution as Clemson Agricultural College, engaged in diverse activities, is of necessity somewhat complex and very voluminous if details are to be shown. The following summaries taken from the budget of the fiscal year 1921-22 contain the most important facts:

Fiscal Year 1921-22

SUMMARY—CLEMSON COLLEGE FINANCES.

PROSPECTIVE RESOURCES

(a)	**Available for Collegiate Purposes and Certain Required Public Services.**		
1.	Interest on Clemson Bequest	$ 3,512.36	
2.	Interest on Landscript	5,754.00	
3.	Estimated tuition	13,000.00	
4.	Morrill and Nelson Funds (U. S.)	25,000.00	
5.	Sales, rents, interest, etc	30,000.00	
6.	Estimated Fert. tax and penalties	200,000.00	
7.	Remaining in reserve fund	77,209.33—	$354,475.71

(b) Abailable for Special Public Service Only—

	State Appro.	U. S. D. A. Counties, etc.
7. Extension Service	$ 94,147.15	$276,922.42
8. Tick Eradication	20,000.00	
9. Live Stock Sanitary Work	50,000.00	32,380.00
10. Agricultural Research	50,000.00	33,070.00
11. Crop Pest Commission	10,000.00	10,000.00
12. Slaughter Diseased Stock	2,000.00	
13. Hog Cholera Control		50,000.00***
	$126,147.15	$402,372.42 $628,519.57

(c) Available for Certain College Activities—

14. Revolving Accounts (receipts) $215,893.22**

(d) Available for Cadet Living Expenses—

15. Cadet Fund Receipts $246,443.00***

GRAND TOTAL OF RESOURCES $1,445,331.50

* Only $242,049.72 of this amount passes through the College Treasurer. Of this $121,532.39 is administered by Winthrop College for Home Demonstration.

**Dairy herd, farm, animal husbandry, etc.

*** Last year's figures.

COMPARATIVE STATEMENT

Fiscal Years 1920-21—1921-22.

COLLEGE RECEIPTS—

	Estimated for 1920-21	Actually Received	Estimated for 1921-22
1. Interest on Clemson Bequest	$ 3,512.36	$ 3,512.36	$ 3,512.36
2. Interest on Land Script	5,754.00	5,754.00	5,754.00
3. Morril and Nelson Funds (U.S.)	25,000.00	25,000.00	25,000.00
4. Tuition and Fees	17,000.00	13,496.40	13,000.00
5. Sales, rents, interests, etc.	22,000.00	46,232.54	30,000.00
	73,266.36	93,985.30	77,266.36
6. Fertilizer Tax and Penalities	300,000.00	167,505.16	200,000.00
	373,266.36	261,490.46	277,266.36
7. From Reserve Fund		77,203.68	77,209.35
8. TOTALS	$373,266.36	$338,694.14	$354,475.71

EXPENDITURES—

	Estimated for 1920-21	Actually Received	Estimated for 1921-22
9. Salaries	$169,150.00	$157,077.69	$161,443.34
10. Coal, labor, etc.	112,984.32	96,832.65	98,125.50
11. Total operating expenses	$282,134.32	$253,910.34	$259,568.84
12. Equipment for teaching	15,735.16	7,955.70	15,380.00
13. Building and equipment	30,134.24	26,175.58	13,403.25
14. Totals for College Work	$328,003.72	$288,041.62	$288,352.09
(b) Public Service (From College Funds)—			
15. Scholarships and Advs.	$ 17,000.00	$ 12,749.10	$ 20,000.00
16. Fert. Inspection and Anal.	51,570.00	29,952.51	40,270.00
17. S. C. Experiment Station	6,000.00	5,467.55	
18. Miscellaneous	2,806.00	2,483.36	1,400.00
19. Totals Public Service	$ 77,376.00	$ 50,652.52	$61,670.00
20. GRAND TOTALS	$405,379.72	$338,694.14	$350.022.09

An analysis of these statements show that while total receipts and expenditures accounting to approximately one and a half million dollars in the course of a year may reasonably be expected, the amount available for collegiate instruction and for building and maintenance purposes is really very modest. About a quarter of a million dollars is received from cadets for living expenses and is paid out for the same purpose, the dormitories and mess hall being run at cost. Over $200.000 in the revolving accounts is received from the dairy, from farms, and from similar operations and is paid out for carrying on these activities. Over $600,000 must be used for certain specified public services having little to do with the activities of the college proper. Only $350,000 approximately, remains for collegiate purposes, most of which comes from the fertilizer tax and is uncertain; in addition the $77,000 in the reserve fund is not income but is a reserve built up through careful economies over a period of years and is used merely to tide the college over the last half of the calendar year when no considerable receipts from the fertilizer tax may be expected. From this amount the salaries of the teaching and maintenance force must be paid, coal and other supplies purchased, and buildings and equipment provided. While casual study of these statements is likely to lead to the conclusion that a large amount of money is available for strictly college purposes, as a matter of fact the amount is little more than is appropriated for the University of South Carolina and the Citadel, both of which have smaller attendance and which do not require as much or as expensive equip-

ment, and considerably less than is appropriated for Winthrop College, which has a larger attendance but which also is not required to provide such extensive and expensive equipment. In fact, because of the comparatively small amount of money available for college work proper and because of the uncertainty as to the amount that can be collected from the fertilizer tax, there is a perennial danger that this work will be seriously hampered for lack of available funds.

Efficiency of Operation:

From whatever angle the work of Clemson Agricultural College is viewed evidence of efficiency, economy and effective results are apparent. The standing of Clemson College in educational circles and the success achieved over a considerable period by the graduates make unnecessary any extended comments on the strictly educational work. As to economy, the internal organization and procedure are well adapted to securing maximum results at a minimum cost. The Professor of Architecture, for example, is responsible for the maintenance of the building and grounds and the Director of the Engineering Department for the operation of other college owned utilities such as the water, light power, and sewerage systems, as a result, the buildings on the whole are in a good state of repair and the costs of maintenance have been very moderate. The rent of some sixty houses occupied by members of the teaching staff and others is in some cases about 10 per cent of their cost, the occupants paying for their water, gas and other services; this rental provides for maintenance, depreciation and interest in the investment. The commissary system and records might well serve as a model for several state institutions and the same is true of the farm records. The system of purchasing is well worked out and adapted in every particular to the needs of the institution. Cost data are collected, scrutinized, analyzed, and used both for current administrative purposes and for determining policies. At every turn there is evidence of the smooth frictionless working of a carefully devised and operated machine calculated to bring about good results with minimum effort and cost. The recommendations made in this report deal almost entirely with matters of policy or with small matters of organization or procedure almost inconsequential in view of the operation of the College as a whole. The expense of operation—about $300 per student for collegiate purposes in 1920-21—is moderate in view of the buildings, laboratories, shops and personnel required to give instruction of a high standard in agriculture, engineering textiles, and other technical subjects.

Desirability of Direct State Appropriation:

As is stated in preceeding sections, the college received the receipts from the fertilizer tax, which vary from year to year largely according to industrial conditions; the gross collections exceeded $300,000 in 1919-20 and fell below $151,000 in 1914-15 (the average for 31 years has been $155,000). Until recently this tax provided the College with a liberal income out of which it could pay running expenses and make

considerable outlays for buildings and other permanent equipment. With the growth of the college and the increase of operating costs, however, this method of financing the college work proper has become less and less satisfactory, and in the interest of continuity of policy and program and economical management should be discarded as soon as possible in favor of direct appropriations. It is particularly unfortunate that the college proper should depend upon such an uncertain income while specified appropriations are made for public work such as live stock sanitation. The administrative officers are able to determine with great accuracy the money needed to carry on the collegiate work and have given ample evidence through the accumulation of the reserve fund, through the construction of a large number of buildings, and through economical management that they are unlikely to ask for excessive amounts or to expend appropriations improperly if the Legislature makes this change. On the other hand, there is every evidence that the management is hampered and must follow a cautious policy as long as reliance is placed upon the fertilizer tax, while certain desirable kinds of work such as forestry, cannot be undertaken at all. It would be better from every point of view to turn the fertilizer tax into the state treasury and to make direct appropriations sufficient to meet the needs of the collegiate work.

Building Program:

The building program in recent years has been as uncertain as the fertilizer tax upon which it has depended. The present buildings are not adequate to house properly the present student body and teaching force despite the fact that the attendance has not reached the point generally considered as most desirable to reduce the per capita cost to a reasonable amount without at the same time increasing the number of students to such an extent that the best educational and social results are not attained; in view of the present attendance of approximately 1000 of the liklihood of considerable increase in the next few years if facilities are provided, and of the desirability of an increase of at least 25 percent in order to reduce per capita costs, it would appear desirable to lay out and follow a definite building program. It is believed that if the Legislature should adopt the plan of providing say $100,000 a year for a period of ten years or about $150,000 a year for about six or seven years the physical equipment could be built up to keep pace with the growth in attendance and that at the end of the period the college would be well equipped as to building for a considerably larger number of students without the necessity of a bond issue and a consequent practical doubling of building costs owing to interest payments. As yet there is opportunity to embark on this policy of relatively slow building up; a delay of two or three years would surely mean a bond issue to provide immediately the extra equipment necessary to take care of the increased number of students to be expected in that time. Even at present the extension service is poorly housed and seriously crowded and additional buildings are needed for some other departments.

Scholarships.

In the school year 1920-21, $12,749.10 was expended for scholarships and the advertising connected therewith and it is estimated that $20,000 will be needed for this purpose in the school year 1921-22. A separate report will take up the matter of scholarships in the state supported colleges.

Graduate Work:

Up to this time no attempt has been made to undertake graduate work at Celmson Agricultural College, partially because the finances and facilities of the institution have been taxed to provide for undergraduate work and partially because of the feeling on the part of the Board of Trustees and the President that such work is as yet not necessary. It appears that the time is near at hand, however, when it will be desirable to offer graduate work in both agriculture and engineering. The University of South Carolina, with much poorer equipment and with much less adequate teaching staff at present offers graduate work in civil engineering, it will be pointed out in the interim report on the University that the University is the best place to build up a graduate school in the arts and pure sciences but that graduate work in applied science cannot be undertaken there without great duplication and prohibitive costs. Because of the teaching personnel and the equipment already at Clemson Agricultural College any graduate work of this kind should be undertaken there; and it is believed that the best interests of the state will be served if graduate courses are introduced within the next two or three years.

Salary Scale:

The plan or organization adopted make possible the building up of a strong teaching force at a very moderate expense. The salaries of the Directors in the main are $3500 though three are paid $4000, $4250, and $4500, respectively, while one (the Commandant) receives $1500 and a house in addition to his army pay In general the highest paid professor under the director receives $2800, though in the Agricultural Department four receive from $3000 to $3250; the salaries of the other members of the teaching staff range down to as little as $1400. No such perquisites as free rent, light, heat or fuel are furnished except in the case of the Commandant. The following list showing the positions and salaries in the engineering department is believed to be tipical

Director and Supt. of Heat, Light and Water	$4000.00
Professor of Civil Engineering	2800.00
Professor of Electrical Engineering	2800.00
Professor of Drawing and Architecture	2800.00
Professor of Electrical Engineering	2800.00
Assistant Professor of Machine Shop	2250.00
Associate Professor of Foundry and Forge	2250.00
Associate Professor of Drawing	2250.00
Associate Professor of Mechanical Engineering	2500.00

Assistant Professor of Civil Engineering	2000.00
Assistant Professor of Architecture	2000.00
Assistant Professor of Wood Shop	2000.00
Instructor in Drawing	1800.00
Instructor in Shop Work	1600.00
Stenographer	1020.00
Total	$34020.00

In determining the starting salary and making advances no uniform plan is followed. In general the educational and professional attainments and the results secured in the class room are the prime considerations.

Form of Appropriations:

The form and content of the budget estimates and the section of the appropriation bill relating to Clemson Agricultural College are drawn up in an extremely unsatisfactory fashion as neither the total income and the sources from which it is derived nor the total expenditures with their purpose and character are shown. This is not the fault of the college authorities, for as a matter of fact Clemson Agricultural College has a very carefully worked out budget, perhaps more complete and accurate than any other large institution to which the state makes appropriations, and is able and willing to furnish any information in any form desired. It is eminently desirable that both the estimates prepared by the budget authorities and the appropriation bill should be drawn up in such form that members of the Legislature and interested tax payers may have a clearer picture of the income, of the expendi tures, and of the purpose for which the money is spent. This would not entail any extra work worthy of mentioning on either the part of the college authorities or the budget officers, but would result in a distinct gain to the Legislature and in the end to the college itself by giving members of the Legislature an intelligent conception of the finances and needs of the institution.

Fertilizer Inspection Work:

The collection and analysis of samples of fertilizers require an annual expenditure of about $40,000, the largest item being $12,500 for the pay and travel expenses of thirteen inspectors, $8,500 for tags and printing, and $8,550 for the salaries of Chemists who engage in the analysis of samples. The work being in the nature of law enforcement and only indirectly related to education serves to put the College before many citizens in an unfavorable light. It is particularly unfortunate that the College should be placed in the position of bringing prosecutions, though the necessity for such action has been reduced to the minimum by the practice of making conspicious in the annual statements the names of the manufacturers of samples found deficient as well as of the respect in which the samples are deficient. At the time the College was visited nothing was being done in the way of fertilizer inspection or analysis, as this work is confined almost entirely to the

first half of the year; it is believed, however, that the work is more efficiently and economically handled than could reasonably be expected from any other state agency and that it should continue to be done by Clemson Agricultural College unless the unfavorable criticism which results is regarded as sufficient reason for transferring this work elsewhere. One difficulty of making the transfer is the necessity, in some cases at least, of making field tests with growing crops as well as chemical analysis.

Publicity Work:

In connection with the extension and research work a number of different kinds of publicity matter are prepared and distributed, including a weekly news letter "The Weekly News Notes." bulletins and posters. This material appears to be prepared satisfactorily from the standpoint of scientific accuracy, news value, and suitability for the audience addressed. Some embarrassment results from the necessity of pointing out the lack of scientific accuracy in some of the material sent out by the Commissioner of Agriculture's office through the Market Bulletin. The publicity matter of the college is well prepared and covers the field so thoroughly that it is not believed the necessity exists for the issuing of any such material by any other state agency.

Comments on Procedure and Conditions:

As is indicated in the preceeding section, with rare exceptions the procedure is all that could be asked and existing conditions are very satisfactory. The following comments refer to some matters in which improvement might be possible:

Commissary Records: The Commissary records are on the whole very well kept but it would seem that the perpetual inventory system might be introduced with benefit in the record of supplies received and issued.

Chemical Supplies: It is understood that under the system prevailing last year no one individual was in charge of the store room for the equipment and the supplies kept in the chemistry building and as a result some of the apparatus in usuable condition becomes scattered about the various laboratories and the stock of chemicals and chemical apparatus somewhat confused with certain parts broken and damaged. It is understood, however, that this condition has been remedied with the opening of the new school year by placing one individual in charge.

Fire Hazards: The recent fire in the kitchen and commissary, which was quickly extinguished, demonstrated the effectiveness of the school fire fighting force and equipment. The water pressure and the storage facilities seem ample, but it might be desirable to extend to the agricultural and dairy buildings, where gases and chemicals are used, the sprinkler system which has already been installed in the engineering building and shops and chemistry buildings, and the hotel. Possibly it might be advisable to install some additional hand fire extinguishers in some of the other buildings.

Summary of Recommendations:

It is recommended:

1. That direct appropriations from the state treasury be substituted for the income derived from the fertilizer tax.

2. The estimates and appropriations show the amount and sources of the income and the purpose and character of expenditures in considerable detail and that the estimates be supplemented by such supporting schedules as may be necessary to show a complete picture of the financial operations and needs of the college.

3. That a building program effective in 1922 and providing for annual appropriations of $100,000 for a period of ten years or $150,000 for six or seven years be adopted.

4. That consideration be given to the undertaking of graduate work in engineering and agriculture.

5. That the publicity work with regard to agriculture be continued along the present lines and that any such publicity work undertaken by other state agencies be either discontinued or transferred to Clemson Agricultural College.

6. That certain minor matters of procedure of maintenance be given attention.

INVESTIGATING STAFF
By Fred Telford,
Chief Investigator

Columbia, S. C., Oct. 7, 1921.

Historical Sketch of Clemson College

Thomas G. Clemson, after whom the College is named, was born in Philadelphia in July, 1807, and died at the Fort Hill home April 6, 1888.

In 1823, then scarcely 16 years old, he ran away from home, and, after spending some time in England, went to Paris, where he took up arms in the revolution of that time. His gallantry brought him recognition and the friendship of prominent men, resulting in his being given a course in the celebrated School of Mines in Paris. In this school he remained four years, graduating with high honors.

While he was in Europe, his father died, leaving nothing to him in his will. Soon after this he returned to America, and establishing himself in Washington, practiced his profession of Mining Engineer, and accumulated a comfortable fortune. It was here that he met Miss Anna Marie, the eldest daughter of John C. Calhoun, and married her. Two children resulted from this union—a daughter, Floride, who afterwards became Mrs. Gideon Lee, of New York, and a son, John Calhoun Clemson.

Mr. Clemson was a strong advocate of the political doctrine of Mr. Calhoun, and when the war broke out, fearing arrest, he and his son escaped by night in a boat, and walking to Richmond, offered their services to President Davis. Mr. Clemson was assigned to the Trans-Mississippi Nitre Mining Department, where he served until the end of the war. His son was appointed a Lieutenant and assigned to active duty.

At the end of the war, Mr. Clemson with his family came to Pendleton and resided with Mrs. John C. Calhoun until her death in 1866.

Mr. Clemson was interested as far back as this date in the establishment of an Agricultural and Industrial College. In November 1866, a Committee was appointed, consisting of Hon. Thomas G. Clemson, Hon. R. F. Simpson and Col. W. A. Hayne, to appeal to their fellow men for

"Aid to found an institution for educating our people in the Sciences, to the end that our Agriculture may be improved, our worn and impoverished soils be recuperated, the great natural resources of the South be developed."

In January 1867, at a meeting of the Pendleton Farmers' Society, Mr. Clemson addressed the body in "an able and most interesting and instructional discourse," and submitted in the form of a circular the appeal above referred to. The circular was written by Mr. W. H. Trescot, and closes with the words:

"Letters and contributions to be directed to the Hon. Thos. G. Clemson, LL.D., Chairman of the Committee, Pendleton, Anderson District, South Carolina."

Again in the minutes of the same Society, of which he was elected President in 1868, under date of Oct. 14, 1869, we find the following:

"The President, (Mr. Clemson), entertained the Society for half an hour on the subject of Scientific Agriculture, and the Importance of Scientific Agricultural Education."

These citations indicate an early interest on the part of Mr. Clemson in the great cause to which he later devoted his estate.

Previous to the war Mrs. John C. Calhoun had sold the Fort Hill place and negroes to her son, Col. Andrew P. Calhoun, taking in payment his bond and mortgage for $40,200.00. At her death, she left a will, deeding to her daughter, Mrs. Clemson, three-fourths of the value of this bond and mortgage, and to her granddaughter, who at the time of Mrs. Calhoun's death was Mrs. Gideon Lee of New York, the remaining one-fourth of the bond and mortgage.

Shortly after Mrs. Calhoun's death, Mrs. Thomas G. Clemson, after considerable costly litigation foreclosed the mortgage on the Fort Hill place, and at the sale of the property in Walhalla in January 1872, Mr. Clemson, as Trustee for his wife and daughter, bid it in for $15,000,* and he himself paid out of his private funds about $8,000 to cover lawyer's fees, court cost, etc.

In 1871, Mr. Clemson's daughter, then Mrs. Gideon Lee, died, and seventeen days later, his only son, John Calhoun Clemson, was killed in a railroad accident at Seneca. Left childless, Mrs. Clemson willed to her husband, Thomas G. Clemson, all of her estate, "absolutely and in fee simple."†

Mr. Clemson, in his will, left to his granddaughter, Floride Isabella Lee, $15,000 to free the property, which by the same will was donated to the State, from any claim in equity that the granddaughter might have. This was, of course, in addition to one-fourth of the estate which descended to Miss Lee from her mother.

Neither by intention, nor by donation, nor by any form of hereditary transmission does it anywhere appear that John C. Calhoun had anything to do with the founding of the College which bears Clemson's name.

In 1875 Mrs. Clemson died, and on April 6, 1888, Mr. Clemson followed her to the grave, and was buried in the Episcopal church yard at Pendleton.

Mr. Clemson's will was bitterly contested by the Lee family, but was finally fully sustained by the U. S. Supreme Court. After the settlement of the will, the Trustees of the College bought from Miss Floride Isabella Lee her one-fourth of the estate which adjoined the tract given to the State by Mr. Clemson.

* See Title Book, Oconee County, P. 177-f.

† See Judge of Probate's Office, Oconee County, Apartment 26, Package 287.

The following extracts are made from Mr. Clemson's will‡ in order to show clearly his purpose in offering his property to the State for the founding of the Clemson Agricultural College.

* * * * "Feeling a great sympathy for the farmers of this State, and the difficulties with which they have to contend in their efforts to establish the business of agriculture upon a proper basis, and believing that there can be no permanent improvement in agriculture without a knowledge of those sciences which pertain particularly thereto, I have determined to devote the bulk of my property to the establishment of an Agricultural College upon the Fort Hill Place. My purpose is to establish an Agricultural College which will afford useful information to the farmers and mechanics; therefore it should afford thorough instruction in agriculture and the natural sciences connected therewith; it should combine, if practicable, physical with intellectual education, and should be a high seminary of learning in which the graduate of the common schools can commence, pursue and finish a course of studies terminating in thorough theoretic and practical instruction in those sciences and arts which bear directly upon agriculture. But I desire to state plainly, that I wish the Trustees of said institution to have full authority and power to regulate all matters pertaining to said institution, * * * * but to always bear in mind that the benefits herein sought to be bestowed are intended to benefit agriculture and mechanical industries. * * * I trust I do not exaggerate the importance of such an institution for developing the material resources of the State, by affording its youth the advantages of scientific culture, and that I do not over-rate the intelligence of the Legislature of South Carolina, ever distinguished for liberality, in assuming that such appropriations will be made as will be necessary to supplement the fund resulting from the bequest herein made."

"I therefore give * * * * the aforesaid Fort Hill place where I now reside, formerly the house of my father-in-law, John C. Calhoun, consisting of eight hundred and fourteen acres, more or less, in trust that whenever the State of South Carolina may accept said property as a donation from me, for the purpose of thereupon founding an Agricultural College, in accordance with the views I have hereinbefore expressed, (of which the chief justice of South Carolina shall be the Judge,) then my executor shall execute a deed of the said property to said State and turn over to the same all property hereinafter given as an endowment of said institution, to be held as such by the said State so long as it in good faith devotes said property to the purpose of the donation." * * * *

"The following named gentlemen, seven in number, shall be seven of the Board of Trustees, to-wit: R. W. Simpson, D. K. Norris, M. L. Donaldson, R. E. Bowen, B. R. Tillman, J. E. Wannamaker, and J. E. Bradley; and the State, if it accepts the donation, shall never increase the Board of Trustees to a number greater than thirteen in all, nor shall the duties of the said Board be taken away or conferred upon any other men or body of men. The seven Trustees appointed by me, shall always have the right, and the power is hereby given them and their successors, which right the Legislature shall never take away or abridge, to fill all vacancies which may occur in their number by death, resignation, refusal to

‡ See Judge of Probate's Office, Oconee County, Apartment 64, Package 671.

act, or otherwise. But the Legislature may provide as it sees proper for the appointment or election of the other six Trustees, if it accepts the donation. * * * The name of this Institution is to be "The Clemson Agricultural College of South Carolina."

In the codicil to his will, Item 12, occurs the following significant statement:

"The desire to establish such a school or college as I have provided for in my said last will and testament, has existed with me for many years past, and many years ago I determined to devote the bulk of my property to the establishment of an Agricultural School or College. To accomplish this purpose is now the one great desire of my life."

In November 1889, the General Assembly of South Carolina passed the necessary acts authorizing the acceptance of the terms of Mr. Clemson's will, and the establishment of the College. The following extracts are taken from the State laws relating to the College:

Section 1300: "The Honorable Thomas G. Clemson having departed this life on the sixth day of April, A. D. 1888, leaving of force his last will and testament * * * * wherein he devised and bequeathed the Fort Hill plantation, as well as all his other property, both real and personal, except certain legacies in the said will mentioned and provided for, all in trust to convey to the State of South Carolina when the said State shall accept the same for the purpose of establishing and maintaining an Agricultural and Mechanical College upon the aforesaid Fort Hill plantation upon the terms and conditions of said will, **the State of South Carolina hereby expressly declares that it accepts the devise and bequest of Thomas G. Clemson, subject to the terms and conditions set forth in his last will and testament."** * * * *

"Section 1302: The said College shall be under the management and control of a Board of Thirteen Trustees composed of the seven members nominated by said will and their successors and six members to be elected by the Legislature in Joint Assembly."

Section 1304: That it shall require a two-thirds vote of said Board of Trustees to authorize the expenditure of any moneys appropriated to said College by the State, or to authorize the sale or transfer or re-investment of any property or moneys arising from the sale of any property under the provisions of this Act."

"Section 1319: All the privilege tax on fertilizers heretofore required to be paid to the Commissioner of Agriculture shall in the future be paid to the Treasurer of the State, subject to the order of the Board of Trustees of the Clemson Agricultural College of South Carolina; and so much of the money so received as shall be necessary to defray the expenses of the Board in performing the duties now by this Act devolved upon them shall be thus used, and the balance shall go to the said College, for its erection and maintenance."

It will be seen from the above extracts that the State accepted in good faith the terms of Mr. Clemson's will, features of which were the maintenance of the College, the recognition of the self-perpetuating life membership appointed by Mr. Clemson, and the naming of the College after Mr. Clemson.

In his will Mr. Clemson provides that there should be seven life trustees and that six might be selected by the State. It would seem appropriate to mention that in the appointment of the seven life trustees, Mr. Clemson had two purposes in mind. The State had only recently emerged from negro domination and during a part of that time the doors of the University and of the Citadel had been closed because of the action of a radical legislature admitting negroes as well as whites. Mr. Clemson wished to insure white supremacy in the government of Clemson. Also, at the time he wrote his will, industrial education had no standing with southern educators and the danger of having the college diverted from its purpose into a classical institution loomed large in Mr. Clemson's mind.

At the time of the Act of Acceptance, however, these dangers were overpassed and the Legislature passed the rule that a two-thirds vote of the entire Board of Trustees would be necessary to expend any moneys appropriated to the said college by the State.

This is a historical sketch, not an argument. Whether it were wise to create a separate agricultural and mechanical college located in one corner of the state is now very largely an academic question—likewise it may be a question with some whether the State should have accepted the bequest under the terms of Mr. Clemson's will. In the face of an accomplished fact, logic and lamentation are alike impotent. South Carolinians are more interested in knowing not what might have been done, but what has actually been accomplished. Clemson College itself is the answer to that question.